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ABSTRACT

The Division of Science Resources Studies of the National Science Foundation (NSF) reports statistical data related to science and engineering for each state in the United States. This report contains an overview of data related to cumulative distribution of the United States research and development performance by state in 1995, the relationship between the amount of research and development performed in a state and the size of its economy in 1995, federal research and development obligations by agency and state in 1995, and the difference in agency-reported and performer-reported federal research and development from 1980-95. Each state profile includes a table displaying science and engineering data for that state, the United States, and the rank of the state, and a table delineating the federal obligations for research and development in the state by agency and performer. (DDR)

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Science and Engineering State Profiles: 1997

Detailed Statistical Tables

Division of Science Resources Studies
Directorate for Social, Behavioral, and Economic Sciences
National Science Foundation

NSF 98-315

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OVERVIEW

INTRODUCTION

Economists and policy makers have long considered research and development (R&D) to be a key component of economic growth. The contribution of R&D activities to local economies has been a topic of particular interest to state policy makers. This report, *Science and Engineering State Profiles: 1997*, provides statistics on the geographic distribution of R&D within the United States. R&D data for 52 areas—each of the 50 states, the District of Columbia and Puerto Rico—are derived from the several performer-based[1] surveys of the National Science Foundation's (NSF's) R&D Statistics Program. For each state (or geographic area) these data are categorized by major source of funds (industry, Federal Government, and academia), and by type of performer [industry, Federal Government, academia, Federally Funded Research and Development Centers (FFRDCs), and other nonprofit institutions] (table 1).[2] Data pertaining to Federally-funded R&D are presented in greater detail, in the form of a cross tabulation between: (1) specific Federal agencies from which such funds originate, and (2) the type of performer receiving those funds.

The most recent R&D data available on a state-by-state basis are for the year 1995.[3] In that year, total R&D expenditures in the United States were $183 billion, of which $177 billion could be attributed to expenditures within individual states, with the remainder falling under an undistributed, "other/unknown" category. The statistics and discussion below refer to state R&D levels in relation to the distributed total of $177 billion.

The "other/unknown" category includes R&D performed within the 50 states, or the District of Columbia, but where the specific location of such performance was not provided by survey respondents. It also includes R&D conducted by organizations within the United States, but where actual performance does not take place in a particular state or the District of Columbia, e.g., research conducted on marine vessels, and research in Puerto Rico.

For the compilation of these data, 15 sources were used, which include NSF statistical reports, as well as statistical reports from other Federal agencies, namely, the Department of Commerce (DOC), the Department of Labor (DOL), the Department of Education (DOE), and the U.S. Small Business Administration (SBA). A complete listing of these sources are provided at the end of this overview.

[1] In any discussion of R&D expenditures, an important distinction must be made between R&D "performance" (the situation in which R&D is actually carried out) and R&D funding "sources" (where the money for R&D originates). For example, a term like "Federal R&D" is ambiguous, in that it does not specify whether it is referring to performance or funding. The Federal Government is a much larger "source" of R&D funding (termed "Federal Funding of R&D") than a performer of R&D itself (termed "Federal Intramural R&D"). In the reporting of R&D by state, much more attention has been paid to R&D *performance* within states than R&D funding originating from states. Since R&D performance is an important component of the economic activity of the state, and the geographic location of funding organizations may have little bearing on economic activity within the same state, this report will focus on R&D performance.

[2] At present, data on R&D performed by nonprofit institutions within individual states include only R&D that derives from Federal funding. However, a survey of R&D by nonprofit organizations is now underway, which is expected to provide more complete data on R&D by nonprofit organizations in the near future.

[3] These complete data sets are only available in odd-numbered years. Thus, 1997 is the next year for such reporting and these data will be available by early 1999.

Table 1. R&D performance by state, sector, and sources of funds: 1995

Performing sector:			Industry			Universities and colleges						U&C FFRDCs	Other nonprofit institutions				Nonprofit FFRDCs
Funding sector:	Total R&D	Federal Govt.	Total	Federal Govt.[1]	Industry[1]	Total	Federal Govt.	Nonfed. Govt.	Industry	U&C	Nonprofits	Federal Govt.[2]	Total	Federal Govt.	Industry	Nonprofits	Federal Govt.
Location	(Thousands of current dollars)																
United States, total	183,013,221	17,342,745	132,103,000	23,451,000	108,652,000	22,101,220	13,331,158	1,654,996	1,492,433	4,023,631	1,599,002	5,405,345	5,152,493	2,806,493	830,000	1,516,000	831,393
Alabama	1,680,828	642,257	686,000	273,000	413,000	334,689	190,330	6,991	29,164	86,664	21,540	0	NA	17,882	NA	NA	0
Alaska	163,396	60,545	30,000	D	D	72,216	37,285	5,607	5,470	23,850	4	0	NA	635	NA	NA	0
Arizona	1,995,303	177,935	1,356,000	620,000	736,000	380,216	210,475	8,080	23,238	126,380	12,043	75,005	NA	6,198	NA	NA	0
Arkansas	329,500	57,563	181,000	D	D	87,799	33,348	23,779	7,693	19,717	3,262	D	NA	3,138	NA	NA	0
California	36,132,656	1,843,729	28,710,000	6,925,000	21,785,000	2,594,280	1,796,691	107,055	120,080	372,941	197,513	2,377,815	NA	361,960	NA	NA	245,360
Colorado	2,603,092	167,869	1,865,000	274,000	1,591,000	393,809	260,247	21,998	24,470	51,690	35,404	125,310	NA	46,418	NA	NA	4,743
Connecticut	4,310,652	17,690	3,906,000	389,000	3,517,000	377,225	227,915	18,732	20,327	78,243	32,008	0	NA	9,737	NA	NA	0
Delaware	1,148,632	15,477	1,077,000	12,000	1,065,000	53,161	27,352	2,144	3,681	14,560	5,424	0	NA	2,994	NA	NA	0
District of Columbia	3,128,056	2,106,077	672,000	17,000	656,000	181,461	132,770	814	13,297	19,937	14,643	0	NA	168,518	NA	NA	0
Florida	5,223,199	554,440	4,101,000	1,634,000	2,467,000	559,104	317,081	41,466	36,382	135,110	29,065	0	NA	8,165	NA	NA	0
Georgia	2,112,572	272,178	1,175,000	142,000	1,031,000	657,530	302,390	53,611	55,018	221,785	24,726	0	NA	7,766	NA	NA	0
Hawaii	508,912	401,963	14,000	D	D	78,429	44,238	26,789	299	3,738	3,365	0	NA	14,520	NA	NA	0
Idaho	913,961	27,792	827,000	D	D	58,621	19,710	13,615	7,408	16,350	1,538	0	NA	548	NA	NA	0
Illinois	7,486,667	80,626	5,776,000	146,000	5,630,000	817,640	467,952	46,903	43,048	195,052	64,685	770,554	NA	41,416	NA	NA	0
Indiana	3,162,633	62,061	2,721,000	382,000	2,339,000	375,719	197,095	22,463	34,542	101,283	20,336	0	NA	3,596	NA	NA	0
Iowa	1,391,030	37,257	998,000	D	D	322,769	163,620	47,279	19,391	77,793	14,686	31,925	NA	1,054	NA	NA	0
Kansas	763,777	12,296	569,000	D	D	181,496	70,026	39,353	11,434	52,517	8,166	0	NA	910	NA	NA	0
Kentucky	593,797	5,911	452,000	4,000	448,000	134,784	59,811	9,589	16,627	43,883	4,874	0	NA	1,102	NA	NA	0
Louisiana	423,102	45,108	61,000	D	D	314,996	135,838	71,898	21,317	66,446	19,497	0	NA	1,863	NA	NA	0
Maine	345,016	4,238	286,000	D	D	31,901	15,789	2,005	4,158	9,357	592	0	NA	23,310	NA	NA	0
Maryland	6,518,849	4,158,824	1,075,000	287,000	788,000	1,159,866	894,585	75,759	55,111	84,508	49,903	0	NA	123,499	NA	NA	1,564
Massachusetts	9,969,452	315,749	7,416,000	1,458,000	5,958,000	1,147,150	824,826	13,240	89,409	92,116	127,559	344,657	NA	587,363	NA	NA	158,589
Michigan	13,274,875	82,008	12,388,000	148,000	12,240,000	755,089	417,755	48,961	50,629	180,866	56,878	0	NA	49,778	NA	NA	0
Minnesota	3,086,938	30,139	2,636,000	315,000	2,321,000	336,534	194,819	49,543	23,427	46,235	22,500	0	NA	84,775	NA	NA	0
Mississippi	314,710	132,616	66,000	D	D	112,789	62,597	23,778	8,912	11,211	6,291	0	NA	3,305	NA	NA	0
Missouri	2,498,523	55,445	2,028,000	584,000	1,443,000	397,192	212,750	21,486	36,639	92,974	33,343	0	NA	17,723	NA	NA	0
Montana	119,109	33,553	17,000	D	D	66,879	27,382	12,914	5,825	20,172	586	0	NA	1,677	NA	NA	0
Nebraska	335,930	23,132	150,000	D	D	157,044	54,746	42,331	10,933	45,536	3,498	0	NA	5,754	NA	NA	0
Nevada	445,100	34,669	322,000	D	D	86,902	47,708	6,460	6,941	24,798	995	0	NA	1,457	NA	NA	0

See explanatory information and SOURCE at end of table.

Table 1. R&D performance by state, sector, and sources of funds: 1995

Performing sector:			Industry			Universities and colleges						U&C FFRDCs	Other nonprofit institutions				Nonprofit FFRDCs
Funding sector:	Total R&D	Federal Govt.	Total	Federal Govt.[1]	Industry[1]	Total	Federal Govt.	Nonfed. Govt.	Industry	U&C	Nonprofits	Federal Govt.[2]	Total	Federal Govt.	Industry	Nonprofits	Federal Govt.
Location	(Thousands of current dollars)																
New Hampshire	598,033	30,902	472,000	26,000	436,000	93,073	60,131	3,963	3,919	12,948	12,112	0	NA	1,722	NA	NA	0
New Jersey	9,127,706	343,667	8,200,000	197,000	8,002,000	443,371	208,934	39,535	25,861	135,607	33,434	125,685	NA	11,332	NA	NA	4,130
New Mexico	3,295,475	481,047	1,461,000	1,380,000	81,000	230,393	156,554	17,298	10,696	38,562	7,283	1,109,400	NA	6,218	NA	NA	7,417
New York	10,954,468	117,250	8,651,000	1,821,000	6,831,000	1,702,414	1,107,468	95,941	98,200	206,258	194,547	281,148	NA	202,749	NA	NA	0
North Carolina	3,191,499	220,179	2,226,000	15,000	2,212,000	686,609	431,682	97,647	74,086	61,857	21,337	0	NA	59,002	NA	NA	0
North Dakota	97,606	25,042	12,000	D	D	59,617	27,841	1,534	3,346	25,043	1,853	0	NA	947	NA	NA	0
Ohio	5,314,155	599,044	4,001,000	574,000	3,428,000	642,596	375,061	47,690	54,316	106,701	58,828	0	NA	71,914	NA	NA	0
Oklahoma	528,764	45,104	288,000	38,000	249,000	186,371	59,504	19,699	11,453	79,107	16,608	0	NA	9,289	NA	NA	0
Oregon	1,088,654	55,959	741,000	35,000	706,000	258,575	158,076	30,312	11,693	37,453	21,041	0	NA	33,120	NA	NA	0
Pennsylvania	6,919,124	227,520	5,331,000	376,000	4,955,000	1,139,531	754,444	34,954	120,303	164,296	65,534	31,525	NA	189,379	NA	NA	0
Rhode Island	896,458	254,302	520,000	D	D	105,501	72,461	3,225	2,479	25,644	1,692	0	NA	16,767	NA	NA	0
South Carolina	996,261	34,441	739,000	D	D	220,088	109,443	17,899	19,364	53,994	19,388	0	NA	2,732	NA	NA	0
South Dakota	54,667	13,428	19,000	0	19,000	21,392	10,623	6,772	469	2,341	1,187	0	NA	847	NA	NA	0
Tennessee	1,402,352	62,100	1,003,000	D	D	308,155	191,797	35,395	16,345	45,116	19,502	9,612	NA	19,875	NA	NA	0
Texas	8,385,028	537,508	6,211,000	912,000	5,298,000	1,472,165	747,687	158,886	102,486	296,606	166,500	0	NA	163,001	NA	NA	860
Utah	1,144,214	131,138	803,000	178,000	625,000	202,212	140,600	15,431	9,456	28,065	8,660	0	NA	7,730	NA	NA	0
Vermont	308,180	4,702	248,000	D	D	54,065	32,932	2,454	5,467	9,519	3,693	0	NA	1,413	NA	NA	0
Virginia	3,897,253	1,580,530	1,577,000	743,000	834,000	446,776	261,604	46,814	45,897	64,379	28,082	74,015	NA	41,651	NA	NA	177,472
Washington	5,240,679	159,837	4,294,000	D	D	485,970	340,327	13,761	39,429	77,212	15,241	0	NA	95,900	NA	NA	204,972
West Virginia	475,040	139,595	243,000	D	D	53,399	30,464	2,023	3,160	13,470	4,282	33,047	NA	5,999	NA	NA	0
Wisconsin	2,226,046	40,344	1,706,000	33,000	1,673,000	472,982	270,622	42,549	16,873	92,115	50,823	0	NA	6,720	NA	NA	0
Wyoming	86,767	8,669	25,000	D	D	40,470	15,373	3,125	1,930	17,454	2,588	0	NA	12,628	NA	NA	0
Other unknown	5,804,960	771,290	1,772,000	3,502,000	8,875,000	548,215	320,399	53,446	30,335	114,172	29,863	15,647	2,594,497	248,497	830,000	1,516,000	26,286

[1]Federal support for "industry" R&D includes performance at industry FFRDCs, and industry support of industry R&D includes all non-Federal sources.

[2]Includes total R&D expenditures of FFRDCs administered by academic institutions.

KEY: FFRDCs = Federally Funded Research and Development Centers; U&C = universities and colleges; NA = Not Available; D = data have been withheld to avoid disclosing information about individual companies.

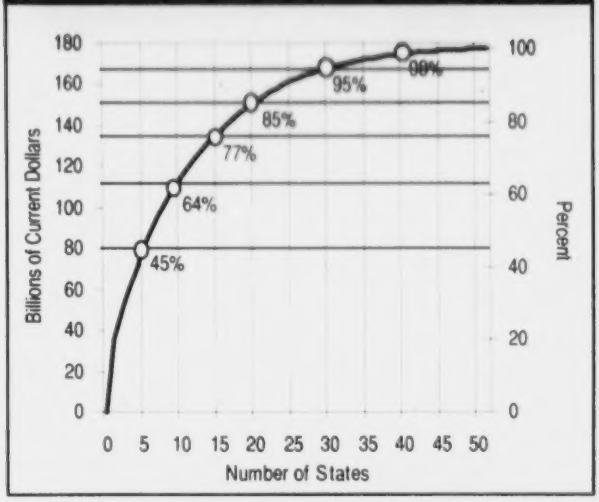
NOTES: Data are based on annual reports by performers except for the nonprofit sector. Detail may not sum to totals, due to rounding.

SOURCES: National Science Foundation/SRS. Data were derived from NSF/SRS, Research and Development in Industry 1995; NSF/SRS, Academic Science/Engineering: R&D Expenditures, Fiscal Year 1995; NSF/SRS, Federal Funds for Research and Development: Fiscal Years 1995, 1996, and 1997.

STATE DISTRIBUTION OF R&D PERFORMANCE

R&D is substantially concentrated in a small number of states. In 1995, California had the highest level of R&D expenditures—over $36 billion—representing approximately one-fifth of the $177 billion U.S. total. The six states with the highest levels of R&D expenditures—California, Michigan, New York, Massachusetts, New Jersey, and Texas (in descending order)—accounted for approximately one-half of the entire national effort. The top ten states—adding, in descending order, Illinois, Pennsylvania, Maryland, and Ohio—accounted for nearly two-thirds of the national effort (figure1 and table 2). California's R&D effort exceeded, by nearly a factor of three, the next-highest state, Michigan, with $13 billion in R&D expenditures. After Michigan, R&D levels declined relatively smoothly to approximately $5 billion for Ohio. The 20 highest-ranking states in R&D expenditures accounted for about 85 percent of the U.S. total; the lowest 20 states, for 5 percent.

Figure 1. Cumulative distribution of U.S. R&D performance by state: 1995



Note: Includes R&D expenditures for the District of Columbia but excludes R&D that cannot be distributed by state.

Source: National Science Foundation/SRS, *National Patterns of R&D Resources*, annual series.

States that are highest in total R&D performance are usually ranked among the highest in industrial and academic R&D performance. For example, among the top 10 for total R&D, eight states were among the top 10 for industrial R&D, and eight were among the top 10 for academic R&D, as shown in table 2.

For Federal intramural research, there was less commonality with the top ten for total R&D. Only four states were found in both top-ten lists: Maryland, California, Ohio, and Texas. The six others in the Federal intramural list, in descending order of Federal R&D performance, were the District of Columbia,

Table 2. Leading states in total R&D performance, R&D by sector, and R&D as a percentage of gross state product (GSP): 1995

	Top 10 states in total R&D performance		Top 10 states in size of R&D, by type of performer			Top 10 states in R&D intensity (states having the highest R&D/GSP ratio)		
Rank	Total R&D (millions of dollars)	Top 10 states[1]	Industry[2]	Universities and colleges[3]	Federal Government	Top 10 states	R&D/GSP (percent)	GSP (preliminary, in billions of dollars)
1	$36,133	California	California	California	Maryland	New Mexico	8.1%	$40.5
2	13,275	Michigan	Michigan	New York	District of Columbia	District of Columbia	6.4	48.7
3	10,954	New York	New York	Illinois	California	Michigan	5.2	255.0
4	9,969	Massachusetts	New Jersey	Massachusetts	Virginia	Massachusetts	5.1	197.2
5	9,128	New Jersey	Massachusetts	Texas	Alabama	Maryland	4.7	138.0
6	8,385	Texas	Texas	New Mexico	Ohio	Delaware	4.0	28.5
7	7,487	Illinois	Illinois	Pennsylvania	Florida	California	3.9	914.8
8	6,919	Pennsylvania	Pennsylvania	Maryland	Texas	Connecticut	3.7	115.6
9	6,519	Maryland	Washington	Michigan	New Mexico	Rhode Island	3.6	24.3
10	5,314	Ohio	Florida	North Carolina	Hawaii	Idaho	3.5	25.8

[1]Includes in-state R&D performance of industry, universities, associated Federally Funded Research and Development Centers (FFRDCs), and Federal agencies and FFRDCs administered by nonprofit institutions. For the tabulations, states include the District of Columbia.

[2]Includes R&D activities of industry-administered FFRDCs located within these states.

[3]Includes R&D activities of university-administered FFRDCs located within these states.

SOURCE: National Science Foundation/SRS, *National Patterns of R&D Resources*, annual series.

Virginia, Alabama, Florida, New Mexico, and Hawaii. Maryland ranked first among Federal R&D performers, followed by the District of Columbia, California, and Virginia. The placement of Maryland, the District of Columbia, and Virginia among the top four in Federal R&D performance reflects the concentration of Federal facilities and administrative offices within the national-capital area.[4] Alabama, Florida, and New Mexico rank among the highest in Federal R&D because of their relatively high shares of Federal space- and defense-related R&D. Hawaii ranks among the highest in Federal R&D because of its relatively high level of intramural research conducted by the Department of Health and Human Services.

Ratio of R&D to Gross State Product

States vary widely in the size of their economies, owing to differences in population, land area, infrastructure, natural resources, and history. Consequently, variation in the R&D expenditure levels of states may simply reflect differences in economic size or the nature of their R&D efforts. A simple way of controlling for the size effect is to measure each state's R&D level as a proportion of its gross state product (GSP) (table 3). That proportion is referred to as R&D "intensity" or "concentration." Overall, the Nation's total

Table 3. Comparison of R&D expenditures and preliminary gross state products (GSP): 1995

State	R&D performance	Preliminary gross state product (GSP)	R&D as a percent of GSP	State	R&D performance	Preliminary gross state product (GSP)	R&D as a percent of GSP
	(millions of dollars)				(millions of dollars)		
Alabama	$1,681	$92,849	1.81%	Nebraska	$336	$43,295	0.78%
Alaska	163	22,999	0.71	Nevada	445	48,212	0.92
Arizona	1,995	103,015	1.94	New Hampshire	598	31,444	1.90
Arkansas	330	53,573	0.62	New Jersey	9,128	265,686	3.44
California	36,133	914,762	3.95	New Mexico	3,295	40,478	8.14
Colorado	2,603	107,202	2.43	New York	10,954	596,452	1.84
Connecticut	4,311	115,634	3.73	North Carolina	3,191	192,634	1.66
Delaware	1,149	28,462	4.04	North Dakota	98	13,400	0.73
District of Columbia	3,128	48,679	6.43	Ohio	5,314	288,364	1.84
Florida	5,223	338,142	1.54	Oklahoma	529	67,993	0.78
Georgia	2,113	196,496	1.08	Oregon	1,089	79,902	1.36
Hawaii	509	36,843	1.38	Pennsylvania	6,919	306,374	2.26
Idaho	914	25,791	3.54	Rhode Island	896	24,949	3.59
Illinois	7,487	348,763	2.15	South Carolina	996	84,083	1.18
Indiana	3,163	144,703	2.19	South Dakota	55	17,282	0.32
Iowa	1,391	70,398	1.98	Tennessee	1,402	134,123	1.05
Kansas	764	64,219	1.19	Texas	8,385	510,289	1.64
Kentucky	594	90,301	0.66	Utah	1,144	45,233	2.53
Louisiana	423	106,525	0.40	Vermont	308	13,886	2.22
Maine	345	26,944	1.28	Virginia	3,897	186,330	2.09
Maryland	6,519	137,996	4.72	Washington	5,241	151,777	3.45
Massachusetts	9,969	197,190	5.06	West Virginia	475	35,776	1.33
Michigan	13,275	254,994	5.21	Wisconsin	2,226	131,517	1.69
Minnesota	3,087	131,406	2.35	Wyoming	87	16,110	0.54
Mississippi	315	53,017	0.59				
Missouri	2,499	135,174	1.85	TOTAL	177,208	7,155,826	2.48
Montana	119	17,731	0.67				

NOTE: Detail does not add to total because of rounding.

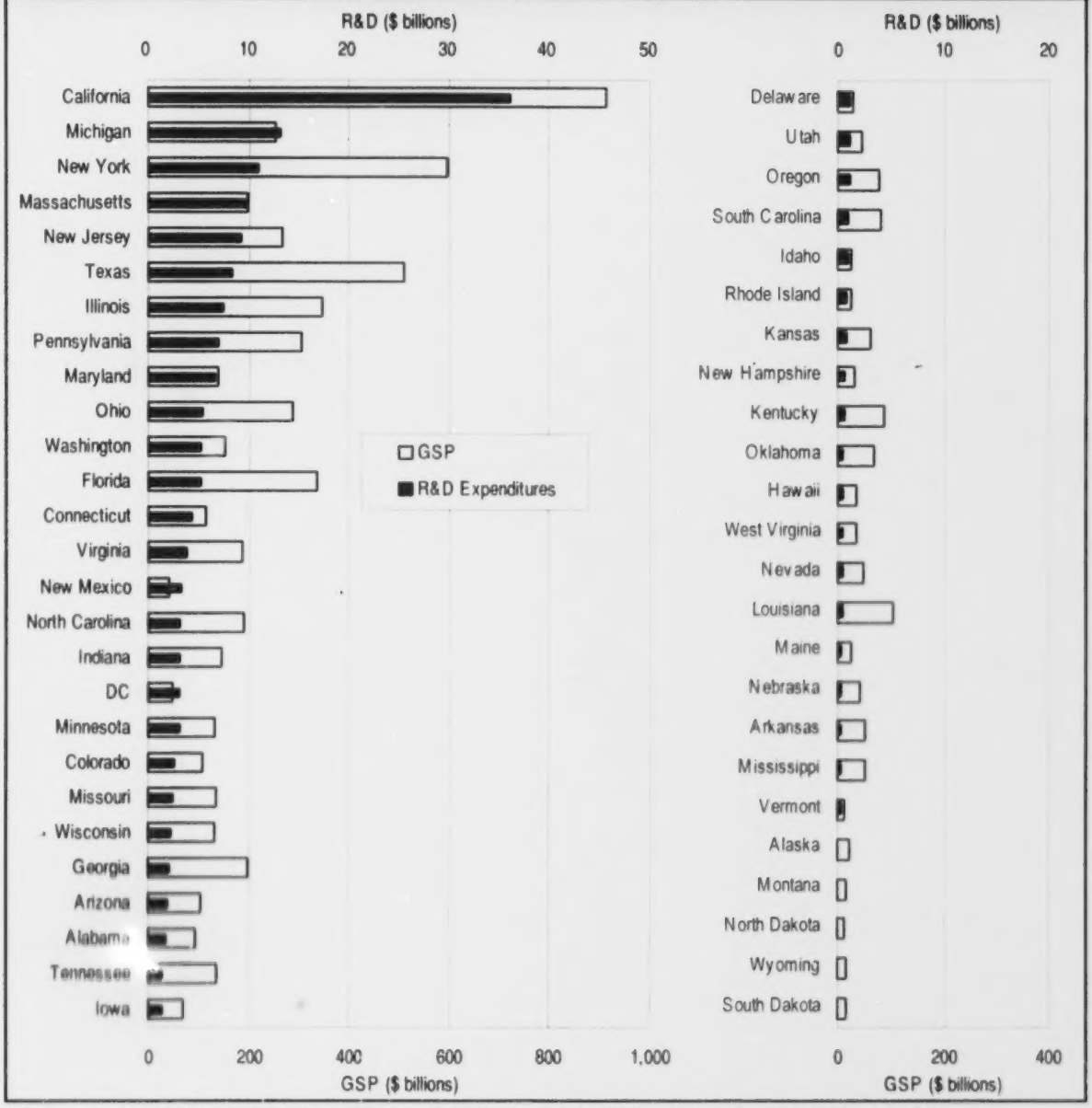
SOURCE: National Science Foundation/SRS. Preliminary GSP tabulations were based on the earnings component of GSP provided by the Bureau of Economic Analysis, Department of Commerce.

[4] Federal intramural performance includes the administration of extramural R&D programs.

R&D to gross domestic product ratio was 2.5 percent in 1995. The top 10 rankings for R&D intensity were, in descending order, New Mexico (8.1 percent), the District of Columbia, Michigan, Massachusetts, Maryland, Delaware, California, Connecticut, Rhode Island, and Idaho (the latter with an intensity of 3.5 percent). New Mexico's R&D intensity is largely attributable to Federal support to the Sandia National Laboratories and Los Alamos National Laboratory FFRDCs in the state, provided by the Department of Energy.

Figure 2 juxtaposes state R&D performance with GSP, with the 50 states and the District of Columbia ranked in descending order of R&D. R&D expenditures are displayed as a dark bar, measured on the upper axis; GSP is displayed as a wider gray bar

Figure 2. Relationship between the amount of R&D performed in a state and the size of its economy (GSP): 1995



NOTE: Includes R&D expenditures for the District of Columbia but excludes R&D that cannot be distributed by state. States are ranked by total R&D expenditures.

SOURCE: National Science Foundation/SRS, *National Patterns of R&D Resources*, annual series.

measured on the lower axis; both are measured in billions of dollars. The two highest-ranked states in total R&D—California and Michigan—clearly show R&D levels that are relatively high in relation to their GSPs, as reflected by their presence in the top 10 list for R&D intensity (table 2).

Some states with below-average R&D intensity ranked high in total R&D performance because of their large economies. The state ranked third in R&D performance, New York, had a relatively low (1.8 percent) R&D intensity. Thus, its third-place position in total R&D performance may be a function of its large state economy. The same may be said of Texas, Illinois, Pennsylvania, Ohio, and Florida. In contrast, Massachusetts, New Jersey, and Maryland are more like California and Michigan, with relatively high R&D levels in relation to economic size. As can also be seen in figure 2, states with relatively low levels of total R&D tend, on average, to have low R&D intensity, with the exceptions of Delaware, Idaho, and Rhode Island. South Dakota, with the lowest total R&D level, also had the lowest R&D intensity (0.3 percent).

Federal Support for R&D

In addition to the performer-reported data described above, data on Federal support for R&D are available from surveys of the Federal agencies that provide such funds. Levels of Federal funding according to the surveyed performers can differ from levels according to the surveyed funding agencies. (See the technical note below on these differences.)

As reported by Federal agencies that fund R&D, the Department of Defense (DoD) and the Department of Health and Human Services (HHS) together provided 68 percent of the $67 billion in total Federal support for R&D to all types of performers in fiscal year (FY) 1995. California and Maryland were the two leading recipients of Federal R&D funds (table 4). Performers in California, primarily industrial firms, received 21 percent of DoD's R&D support. Maryland received 20 percent of HHS' funding, largely supporting intramural activities undertaken at biomedical research facilities at the National Institutes of Health (NIH). California received more R&D funds from both the National Aeronautics and Space Administration (NASA) and NSF than any other state. The main recipients in California of NASA R&D funding were industrial firms and FFRDCs, while the main recipients of NSF funding were universities and colleges. Maryland had the largest share of any one Federal agency's total R&D support, with one-third of the DOC R&D funds. Intramural research activities accounted for most of this funding, associated primarily with DOC's National Institute of Standards and Technology (NIST).

Technical Note:

Differences in Performer-Reported and Source-Reported Federal R&D

The NSF collects, and these profiles contain, two separate estimates on total Federal funding of R&D. Survey data are obtained from both Federal funding agencies and performers of the work (Federal labs, industry, universities, and other nonprofit organizations). National totals, however, are based on data reported by performers because they are in the best

Table 4. Federal R&D obligations, by agency and state: FY 1995

Agency	Total R&D (millions of dollars)	Largest recipient	Percent of total received	Second-largest recipient	Percent of total received
Total for the ten agencies listed	$67,080	California	18.9%	Maryland	10.5%
Department of Agriculture	1,368	District of Columbia	10.4	Maryland	9.9
Department of Commerce	1,134	Maryland	32.6	California	7.6
Department of Defense	34,207	California	21.3	Georgia	11.4
Department of Energy	6,118	New Mexico	17.4	California	17.3
Department of Health and Human Resources	11,411	Maryland	19.6	California	11.4
Department of the Interior	460	Virginia	11.1	Colorado	9.9
Department of Transportation	727	District of Columbia	24.4	New Jersey	11.2
Environmental Protection Agency	548	North Carolina	21.2	District of Columbia	11.0
National Aeronautics and Space Administration	8,964	California	27.9	Texas	21.8
National Science Foundation	2,144	California	13.8	New York	9.3

SOURCE: National Science Foundation/SRS, *Federal Funds for Research and Development: Fiscal Years 1995, 1996, and 1997*

position to (i) indicate how much they spent in the actual conduct of R&D in a given year and to (ii) identify the sources of their funds. Performer reporting also reduces the possibility of double-counting and conforms to international standards and guidance.

Historically, the two survey systems of sources and performers tracked fairly closely. For example, in 1980 performers reported using $29.9 billion in Federal R&D funding and Federal agencies reported total R&D obligations of $29.8 billion. In recent years, the two series have diverged considerably: For 1995, performers report $63.1 billion in Federal R&D support, compared with the $68.8 billion reported by Federal agencies (table 5). (Note that the $67.1 billion in Table 4 and in the U.S. total in the state profiles differs from the $68.8 billion amount because state data are collected from just 10 Federal agencies). The difference in the Federal R&D data totals appears to be concentrated in funding of industry. Overall, in each year since 1989, industrial firms have reported less in Federal R&D support than the amounts that Federal agencies have reported in supporting industrial R&D. The difference has been as large as $9.3 billion, observed in 1994. For 1995, Federal agencies reported $31.7 billion in total R&D obligations provided to industrial performers compared with $23.5 billion in Federal R&D funding reported by industrial performers (table 6). Consequently, data users are cautioned to exercise considerable care in comparing the R&D performance data in table 2 (and detailed in the upper half of the state profiles) with that reported by Federal agencies in table 4 (and detailed in the lower half of the profiles). NSF is investigating the causes of these divergent trends.

Table 5. Difference in agency-reported and performer-reported Federal R&D, all performers: 1978–97

Year	Reported by Federal Agencies (fiscal-year basis)			Performer-reported expenditures (calendar year basis)
	Authorizations	Obligations	Outlays	
	(millions of current dollars)			
1978	$25,976	$25,845	$24,020	$24,279
1979	28,208	28,145	25,838	27,100
1980	29,739	29,830	29,154	29,857
1981	33,735	33,104	32,459	33,666
1982	36,115	36,433	34,391	37,113
1983	38,768	38,712	36,659	41,362
1984	44,214	42,225	39,691	46,319
1985	49,887	48,360	44,171	52,493
1986	53,249	51,412	50,609	54,475
1987	57,069	55,254	51,612	58,254
1988	59,106	56,769	54,739	59,930
1989	62,115	61,407	59,450	60,301
1990	63,781	63,560	62,135	61,456
1991	65,898	61,295	61,130	60,563
1992	68,398	65,593	62,935	60,693
1993	69,884	67,314	65,241	60,350
1994	68,331	67,256	66,159	60,692
1995	68,791	68,755	66,375	63,147
1996 preliminary	69,069	69,077	66,877	62,810
1997 preliminary	69,916	68,064	67,692	62,745

SOURCES: National Science Foundation/SRS, Survey of Federal Funds for Research and Development 1995–97; NSF/SRS, *Federal R&D Funding by Budget Function, FYs 1995–97*; and NSF/SRS, *National Patterns of R&D Resources*, data series.

Science and Engineering Profiles

In addition to the state R&D statistics summarized above, the state profiles contain other statistics (from both NSF and non-NSF sources) relating to economic activity within the state. These data are included in a set of 52 one-page S&E profiles available in hard copy or from the World Wide Web. NSF survey indicators include numbers of doctoral scientists and engineers, doctorate degrees awarded by major S&E field,[5] S&E graduate students and postdoctorates, amounts of Federal R&D obligations by agency and performer, total and industrial R&D expenditures, and academic R&D expenditures by major S&E field. Indicators from non-NSF sources include population, civilian labor force, per capita personal income, total Federal expenditures (not just on R&D), higher education expenditures, patents, small business innovation research (SBIR) awards, and GSP by originating economic sectors. In these profiles, state rankings and totals are provided for the 50 states, the District of

[5] "Environmental Sciences" for S&E doctorate data are the sum of earth, atmospheric, and ocean sciences. "Life Sciences" for S&E doctorate data were defined as including both biological and agricultural sciences. Medical or health-related data are collected but non-S&E health fields are excluded.

Table 6. Difference in agency-reported and performer-reported Federal R&D: industrial performers by agency source, 1980–95

Year	Industry survey			Federal survey			Difference in report totals		
	Total	Department of Defense	Other agencies	Total	Department of Defense	Other agencies	Total	Department of Defense	Other agencies
	(millions of current dollars)								
1980	$14,029	NS	NS	$14,377	$9,114	$5,263	-$348		
1981	16,382	$10,540	$5,842	16,282	10,931	5,351	100	-$391	$491
1982	18,545	NS	NS	18,699	13,943	4,756	-153		
1983	20,680	14,571	6,109	18,522	14,670	3,852	2,158	-99	2,257
1984	23,396	NS	NS	20,219	16,077	4,142	3,178		
1985	27,196	20,948	6,248	23,496	19,069	4,427	3,700	1,879	1,821
1986	27,891	NS	NS	25,898	21,648	4,250	1,993		
1987	30,752	22,252	8,505	28,629	24,258	4,371	2,128	-2,006	4,134
1988	30,343	NS	NS	28,631	23,610	5,020	1,713		
1989	28,554	NA	NA	30,603	25,043	5,560	-2,049	NA	NA
1990	28,125	NS	NS	31,697	24,862	6,835	-3,571		
1991	26,372	NA	NA	28,589	21,349	7,240	-2,217	NA	NA
1992	24,722	NS	NS	31,862	24,443	7,419	-7,140		
1993	22,809	15,044	7,765	31,777	23,856	7,921	-8,968	-8,812	-156
1994	22,463	NS	NS	31,748	23,524	8,224	-9,285		
1995	23,451	13,876	9,575	31,673	22,645	9,027	-8,222	-8,769	548

KEY: NS = not surveyed in this year
NA = not available

NOTES: Data from the Industry survey are R&D expenditures as reported by performing firms and industry-administered, Federally Funded Research and Development Centers (FFRDCs). Data from the Federal survey are R&D obligations to industry as reported by Federal agencies. The last three columns report the difference between the two data series.

SOURCES: National Science Foundation/SRS, Survey of Federal Funds for Research and Development, Survey of Industrial Research and Development, and *National Patterns of R&D Resources*, data series.

Columbia, and Puerto Rico. Because data on total and industrial R&D expenditures are not available for Puerto Rico, rankings for those two variables exclude Puerto Rico.

Of the 17 main indicators ranked by state in the profiles (excluding the rankings in the bottom half of each profile involving Federal R&D obligations by state and performer), California ranked first in each except in personal income per capita, where it ranked 13th. New York ranked 2nd in eight of the indicators and ranked no lower than 8th in any of the others. Texas ranked between 2nd and 7th in all indicators, except in personal income per capita, where it ranked 32nd.

In this report, when states are ranked by a particular statistic, two or more states may have the same value for that statistic. When such ties occur, the tied states are given the same rank, and the next lowest state is given a rank equal to the number of higher ranked states plus 1. For example, if two states are tied for 27th place, they both receive a rank of "27," no state is given a rank of "28," and the next lowest state is given a rank of "29."

For many survey statistics used in this report, some fraction of the survey totals could not be allocated to specific geographic regions, or were for U.S. areas other than the 52 listed in this report (e.g., territories). Consequently, U.S. totals reported here may differ from those reported in the underlying surveys.[6] Also, because of rounding, the sum of the gross state product sector percentages may not equal 100 percent.

[6] For three variables—personal income per capita, number of SBIR awards, and gross state product,—the data sources for Puerto Rico differ from those used to obtain state data.

For some states, reported levels of R&D expenditures and levels of doctoral scientists and engineers are relatively small. For these cases, sampling error in the surveys associated with these statistics may have bearing on the precision of these data, including state rankings. Particular caution in this regard should be used in comparisons among states with low levels of doctoral scientists and doctoral engineers. For example, South Dakota is ranked lowest in doctoral engineers with an estimated number of 77 in the state, and Wyoming is the next highest in rank with 117. However, according to the survey of doctorate recipients from which these data were obtained, any estimate of 100 doctoral engineers is subject to a standard error of 40, implying that the difference between these two states for this variable is not statistically significant.[7] For 1,000 doctoral engineers, there is a standard error of 120. For doctoral scientists, the standard error for 100 scientists is also 40, and for 1,000 scientists it is 110. Readers should consult with the original sources of these data, as listed below, for additional information on standard errors associated with these and other statistics reported.

For information about, and copies of, *Science and Engineering State Profiles*, please contact:

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National Science Foundation
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Arlington, VA 22230

[7] See "Methodological Report of the 1995 Survey of Doctorate Recipients," National Research Council, Washington, DC.

DATA SOURCES FOR SCIENCE AND ENGINEERING (S&E) STATE PROFILES

Doctoral scientists and doctoral engineers. National Science Foundation/SRS. *Characteristics of Doctoral Scientists and Engineers in the United States 1995*, NSF 97-319 (Arlington, VA, 1997).

S&E doctorates awarded. National Science Foundation/SRS. *Science and Engineering Doctorate Awards 1996*, NSF 97-329 (Arlington, VA, 1997).

S&E postdoctorates and S&E graduate students. National Science Foundation/SRS. *Graduate Students and Postdoctorates in Science and Engineering Fall 1995*, NSF 97-312 (Arlington, VA, 1997), and unpublished tables.

Population. U.S. Department of Commerce, Bureau of the Census. Press release CB 96-224, "Population Growth Remains Fastest in Western and Southern States, Census Bureau Reports" (Washington, D.C., July 1996).

Civilian labor force. U.S. Department of Labor, Bureau of Labor Statistics. *State and Regional Unemployment, 1996 Annual Averages* (news release), USDL 97-88, March 18, 1997.

Personal income per capita. U.S. Department of Commerce, Economics and Statistics Administration, Bureau of Economic Analysis. *Survey of Current Business*, Volume 77 (Washington, D.C., May 1997).

Total Federal expenditures. U.S. Department of Commerce, Bureau of the Census. *Federal Expenditures by State for Fiscal Year 1996.* (Washington, D.C., April 1997).

Federal R&D obligations. National Science Foundation/SRS. *Federal Funds for Research and Development FYs 1995, 1996, and 1997*, NSF 97-327 (Arlington, VA, 1997).

Total R&D performance. National Science Foundation/SRS. *National Patterns of R&D Resources 1997 Update* associated with Data Brief NSF 97-328, November 5, 1997 (Arlington, VA, 1997).

Industry R&D. National Science Foundation/SRS. *Research and Development in Industry 1995–96* (Arlington, VA, forthcoming).

Academic R&D. National Science Foundation/SRS. *Academic Science and Engineering R&D Expenditures FY 1995* (Arlington, VA, forthcoming).

Higher education current-fund expenditures. U.S. Department of Education, National Center for Education Statistics. *Digest of Education Statistics 1997* (Washington, D.C., 1997).

Number of SBIR awards. U.S. Small Business Administration, Office of Technology. *Small Business Innovation Development Act.* (Washington, D.C.). Annual Reports covering data for FYs 1990–96.

Patents issued to state residents. U.S. Department of Commerce, U.S. Patent and Trademark Office. *Patent Counts by Country/State and Year: Utility Patents 1963–96* (Washington, D.C., March 1997).

Gross state product. U.S. Department of Commerce, Bureau of Economic Analysis, Regional Economic Analysis Division (Washington, D.C., June 1997).

ALABAMA

Science and Engineering Profile

	AL	U.S.	Rank
Doctoral scientists, 1995	4,853	453,928	28
Doctoral engineers, 1995	1,370	86,738	20
S&E doctorates awarded, 1996	314	27,230	25
of which, in life sciences	31%	25%	
in engineering	25%	23%	
in physical sciences	15%	14%	
S&E postdoctorates, 1995 in doctorate-granting institutions	429	35,379	24
S&E graduate students, 1995 in doctorate-granting institutions	6,313	436,328	22
Population, 1996 (000s)	4,273	269,067	23
Civilian labor force, 1996 (000s)	2,088	135,528	23
Personal income per capita, 1996	$20,055	$24,231	40
Federal spending			
Total expenditures, 1996 (millions)	$23,410	$1,368,858	19
R&D obligations, 1995 (millions)	$2,016	$67,080	11

	AL	U.S.	Rank
Total R&D performance, 1995 (millions)	$1,681	$177,210	25
Industry R&D, 1995 (millions)	$686	$130,332	31
Academic R&D, 1995 (millions)	$335	$21,606	23
of which, in life sciences	66%	55%	
in engineering	13%	16%	
in physical sciences	7%	10%	
Higher education current-fund expenditures, 1995 (millions)	$2,958	$182,602	21
Number of SBIR awards, 1990-1996	434	26,399	16
Patents issued to state residents, 1996	278	61,099	35
Gross state product, 1994 (billions)	$88.7	$6,876.0	25
of which, agriculture	2%	2%	
manufacturing, mining, construction	27%	23%	
transportation, communication, utilities	10%	9%	
wholesale and retail trade	16%	16%	
finance, insurance, real estate	12%	19%	
services	16%	20%	
government	16%	13%	

Rankings and totals are based on data for the 50 states, D.C., and Puerto Rico.

Data on S&E postdoctorates and S&E graduate students include health fields.

Federal Obligations for Research and Development in Alabama by Agency and Performer: Fiscal Year 1995

[Thousands of Dollars]

	Total	Federal intramural	All FFRDCs	Industrial firms	Universities & colleges	Other nonprofits	State & local government	State rank
Total, all agencies	2,016,252	642,257	0	1,159,369	194,411	17,882	2,333	11
Department of Agriculture	16,158	4,950	0	0	11,123	0	85	31
Department of Commerce	2,025	515	0	150	1,323	0	37	35
Department of Defense	1,324,964	359,663	0	951,042	13,593	666	0	10
Department of Energy	34,131	50	0	29,381	4,501	199	0	22
Dept. of Health & Human Services	127,447	0	0	2,286	110,381	13,982	798	22
Department of the Interior	4,085	3,416	0	0	669	0	0	32
Department of Transportation	2,592	1,004	0	0	208	0	1,380	32
Environmental Protection Agency	4,333	0	0	1,514	1,390	1,429	0	23
Nat'l Aeronautics & Space Admin.	467,012	272,659	0	174,921	37,793	1,606	33	5
National Science Foundation	13,505	0	0	75	13,430	0	0	31
State rank	11	5	na	10	21	19	31	

Federal R&D obligations are as reported by funding agencies.

FFRDC = federally funded research and development center

SBIR = small business innovation research

na = not applicable

Prepared by the National Science Foundation/Division of Science Resources Studies. Data compiled from numerous sources.

ALASKA

Science and Engineering Profile

	AK	U.S.	Rank
Doctoral scientists, 1995	1,174	453,928	49
Doctoral engineers, 1995	149	36,738	49
S&E doctorates awarded, 1996	28	27,230	51
of which, in life sciences	46%	25%	
in environmental sciences	25%	3%	
in physical sciences	14%	14%	
S&E postdoctorates, 1995 in doctorate-granting institutions	4	35,379	52
S&E graduate students, 1995 in doctorate-granting institutions	600	436,328	52
Population, 1996 (000s)	607	269,067	49
Civilian labor force, 1996 (000s)	316	135,528	50
Personal income per capita, 1996	$24,558	$24,231	20
Federal spending			
Total expenditures, 1996 (millions)	$4,341	$1,368,858	47
R&D obligations, 1995 (millions)	$97	$67,080	42

	AK	U.S.	Rank
Total R&D performance, 1995 (millions)	$163	$177,210	47
Industry R&D, 1995 (millions)	$30	$130,332	46
Academic R&D, 1995 (millions)	$72	$21,606	42
of which, in environmental sciences	47%	6%	
in life sciences	24%	55%	
in physical sciences	20%	10%	
Higher education current-fund expenditures, 1995 (millions)	$356	$182,602	50
Number of SBIR awards, 1990-1996	13	26,399	48
Patents issued to state residents, 1996	36	61,099	50
Gross state product, 1994 (billions)	$22.7	$6,876.0	47
of which, agriculture	2%	2%	
manufacturing, mining, construction	28%	23%	
transportation, communication, utilities	17%	9%	
wholesale and retail trade	10%	16%	
finance, insurance, real estate	11%	19%	
services	12%	20%	
government	21%	13%	

Rankings and totals are based on data for the 50 states, D.C., and Puerto Rico.

Data on S&E postdoctorates and S&E graduate students include health fields.

Federal Obligations for Research and Development in Alaska by Agency and Performer: Fiscal Year 1995

[Thousands of Dollars]

	Total	Federal intramural	All FFRDCs	Industrial firms	Universities & colleges	Other nonprofits	State & local government	State rank
Total, all agencies	96,915	60,545	0	8,729	24,411	635	2,595	42
Department of Agriculture	7,222	5,423	0	0	1,799	0	0	42
Department of Commerce	32,625	30,970	0	0	1,527	0	128	10
Department of Defense	10,451	1,495	0	7,544	1,412	0	0	44
Department of Energy	302	0	0	253	49	0	0	49
Dept. of Health & Human Services	2,793	446	0	80	1,886	100	281	49
Department of the Interior	24,531	22,211	0	226	1,727	0	367	4
Department of Transportation	1,219	0	0	0	0	0	1,219	43
Environmental Protection Agency	1,224	0	0	496	128	0	600	35
Nat'l Aeronautics & Space Admin.	8,606	0	0	0	8,606	0	0	29
National Science Foundation	7,942	0	0	130	7,277	535	0	42
State rank	42	28	na	44	44	50	30	

Federal R&D obligations are as reported by funding agencies.

FFRDC = federally funded research and development center

SBIR = small business innovation research

na = not applicable

Prepared by the National Science Foundation/Division of Science Resources Studies. Data compiled from numerous sources.

ARIZONA

Science and Engineering Profile

	AZ	U.S.	Rank
Doctoral scientists, 1995	5,598	453,928	25
Doctoral engineers, 1995	1,730	86,738	16
S&E doctorates awarded, 1996	465	27,230	19
of which, in engineering	28%	23%	
in life sciences	19%	25%	
in physical sciences	17%	14%	
S&E postdoctorates, 1995 in doctorate-granting institutions	417	35,379	25
S&E graduate students, 1995 in doctorate-granting institutions	7,427	436,328	19
Population, 1996 (000s)	4,428	269,067	21
Civilian labor force, 1996 (000s)	2,249	135,528	21
Personal income per capita, 1996	$20,989	$24,231	37
Federal spending			
Total expenditures, 1996 (millions)	$21,819	$1,368,858	22
R&D obligations, 1995 (millions)	$915	$67,080	19

	AZ	U.S.	Rank
Total R&D performance, 1995 (millions)	$1,995	$177,210	24
Industry R&D, 1995 (millions)	$1,356	$130,332	21
Academic R&D, 1995 (millions)	$380	$21,606	19
of which, in life sciences	40%	55%	
in physical sciences	32%	10%	
in engineering	12%	16%	
Higher education current-fund expenditures, 1995 (millions)	$1,985	$182,602	30
Number of SBIR awards, 1990-1996	433	26,399	17
Patents issued to state residents, 1996	1,062	61,099	19
Gross state product, 1994 (billions)	$94.1	$6,876.0	24
of which, agriculture	2%	2%	
manufacturing, mining, construction	21%	23%	
transportation, communication, utilities	9%	9%	
wholesale and retail trade	17%	16%	
finance, insurance, real estate	18%	19%	
services	19%	20%	
government	14%	13%	

Rankings and totals are based on data for the 50 states, D.C., and Puerto Rico.

Data on S&E postdoctorates and S&E graduate students include health fields.

Federal Obligations for Research and Development in Arizona by Agency and Performer: Fiscal Year 1995

[Thousands of Dollars]

	Total	Federal intramural	All FFRDCs	Industrial firms	Universities & colleges	Other nonprofits	State & local government	State rank
Total, all agencies	915,087	177,935	29,099	528,327	170,299	6,198	3,229	19
Department of Agriculture	20,254	14,016	0	80	6,133	0	25	24
Department of Commerce	2,371	0	0	1,070	723	0	578	32
Department of Defense	656,556	134,529	0	497,168	24,799	20	40	16
Department of Energy	6,288	0	0	160	6,128	0	0	33
Dept. of Health & Human Services	83,220	15,647	0	1,355	60,267	4,939	1,012	27
Department of the Interior	8,995	8,230	0	94	671	0	0	17
Department of Transportation	3,352	0	0	2,163	40	0	1,149	28
Environmental Protection Agency	3,066	0	0	1,149	1,917	0	0	25
Nat'l Aeronautics & Space Admin.	69,580	5,513	0	24,271	38,575	796	425	13
National Science Foundation	61,405	0	29,099	817	31,046	443	0	10
State rank	19	17	16	15	23	32	25	

Federal R&D obligations are as reported by funding agencies.

FFRDC = federally funded research and development center

SBIR = small business innovation research

na = not applicable

Prepared by the National Science Foundation/Division of Science Resources Studies. Data compiled from numerous sources.

ARKANSAS

Science and Engineering Profile

	AR	U.S.	Rank
Doctoral scientists, 1995	2,115	453,928	40
Doctoral engineers, 1995	263	86,738	45
S&E doctorates awarded, 1996	65	27,230	42
of which, in life sciences	48%	25%	
in engineering	23%	23%	
in physical sciences	14%	14%	
S&E postdoctorates, 1995 in doctorate-granting institutions	80	35,379	39
S&E graduate students, 1995 in doctorate-granting institutions	1,681	436,328	43
Population, 1996 (000s)	2,510	269,067	34
Civilian labor force, 1996 (000s)	1,234	135,528	34
Personal income per capita, 1996	$18,928	$24,231	48
Federal spending			
Total expenditures, 1996 (millions)	$12,076	$1,368,858	34
R&D obligations, 1995 (millions)	$98	$67,080	41

	AR	U.S.	Rank
Total R&D performance, 1995 (millions)	$330	$177,210	44
Industry R&D, 1995 (millions)	$181	$130,332	42
Academic R&D, 1995 (millions)	$88	$21,606	39
of which, in life sciences	75%	55%	
in engineering	12%	16%	
in physical sciences	5%	10%	
Higher education current-fund expenditures, 1995 (millions)	$1,211	$182,602	37
Number of SBIR awards, 1990-1996	17	26,399	47
Patents issued to state residents, 1996	114	61,099	42
Gross state product, 1994 (billions)	$50.6	$6,876.0	32
of which, agriculture	5%	2%	
manufacturing, mining, construction	29%	23%	
transportation, communication, utilities	12%	9%	
wholesale and retail trade	16%	16%	
finance, insurance, real estate	11%	19%	
services	14%	20%	
government	12%	13%	

Rankings and totals are based on data for the 50 states, D.C., and Puerto Rico.

Data on S&E postdoctorates and S&E graduate students include health fields.

Federal Obligations for Research and Development in Arkansas by Agency and Performer: Fiscal Year 1995

[Thousands of Dollars]

	Total	Federal intramural	All FFRDCs	Industrial firms	Universities & colleges	Other nonprofits	State & local government	State rank
Total, all agencies	97,724	57,563	0	3,016	32,766	3,138	1,241	41
Department of Agriculture	16,276	6,126	0	480	9,553	83	34	30
Department of Commerce	23	0	0	23	0	0	0	51
Department of Defense	4,192	1,929	0	602	1,661	0	0	48
Department of Energy	72	0	0	0	72	0	0	51
Dept. of Health & Human Services	66,972	45,858	0	847	16,899	3,035	333	30
Department of the Interior	3,763	3,650	0	0	113	0	0	34
Department of Transportation	1,205	0	0	319	12	0	874	44
Environmental Protection Agency	692	0	0	442	230	20	0	40
Nat'l Aeronautics & Space Admin.	1,667	0	0	293	1,374	0	0	45
National Science Foundation	2,862	0	0	10	2,852	0	0	52
State rank	41	29	na	48	42	37	45	

Federal R&D obligations are as reported by funding agencies.

FFRDC = federally funded research and development center

SBIR = small business innovation research

na = not applicable

Prepared by the National Science Foundation/Division of Science Resources Studies. Data compiled from numerous sources.

CALIFORNIA

Science and Engineering Profile

	CA	U.S.	Rank
Doctoral scientists, 1995	57,927	453,928	1
Doctoral engineers, 1995	13,900	86,738	1
S&E doctorates awarded, 1996	3,385	27,230	1
of which, in engineering	23%	23%	
in life sciences	21%	25%	
in psychology	17%	13%	
S&E postdoctorates, 1995 in doctorate-granting institutions	6,493	35,379	1
S&E graduate students, 1995 in doctorate-granting institutions	43,755	436,328	1
Population, 1996 (000s)	31,878	269,067	1
Civilian labor force, 1996 (000s)	15,596	135,528	1
Personal income per capita, 1996	$25,144	$24,231	13
Federal spending			
Total expenditures, 1996 (millions)	$157,448	$1,368,858	1
R&D obligations, 1995 (millions)	$12,704	$67,080	1

	CA	U.S.	Rank
Total R&D performance, 1995 (millions)	$36,133	$177,210	1
Industry R&D, 1995 (millions)	$28,710	$130,332	1
Academic R&D, 1995 (millions)	$2,594	$21,606	1
of which, in life sciences	57%	55%	
in engineering	13%	16%	
in physical sciences	12%	10%	
Higher education current-fund expenditures, 1995 (millions)	$20,741	$182,602	1
Number of SBIR awards, 1990-1996	6,021	26,399	1
Patents issued to state residents, 1996	10,473	61,099	1
Gross state product, 1994 (billions)	$875.7	$6,876.0	1
of which, agriculture	2%	2%	
manufacturing, mining, construction	18%	23%	
transportation, communication, utilities	7%	9%	
wholesale and retail trade	16%	16%	
finance, insurance, real estate	23%	19%	
services	22%	20%	
government	12%	13%	

Rankings and totals are based on data for the 50 states, D.C., and Puerto Rico.

Data on S&E postdoctorates and S&E graduate students include health fields.

Federal Obligations for Research and Development in California by Agency and Performer: Fiscal Year 1995

[Thousands of Dollars]

	Total	Federal intramural	All FFRDCs	Industrial firms	Universities & colleges	Other nonprofits	State & local government	State rank
Total, all agencies	12,703,572	1,843,729	2,114,606	6,685,458	1,666,792	361,960	31,027	1
Department of Agriculture	76,788	55,432	0	0	21,039	317	0	3
Department of Commerce	86,514	14,161	75	62,180	9,335	541	222	2
Department of Defense	7,272,250	1,424,282	197,851	5,352,911	255,735	41,471	0	1
Department of Energy	1,058,345	5,147	849,410	107,416	80,485	6,184	9,703	2
Dept. of Health & Human Services	1,305,366	4,274	32,631	119,258	869,400	275,580	4,223	2
Department of the Interior	45,125	40,680	160	1,139	2,826	320	0	3
Department of Transportation	33,854	8,096	277	6,737	3,149	1,500	14,095	6
Environmental Protection Agency	25,367	0	0	8,399	13,690	742	2,536	6
Nat'l Aeronautics & Space Admin.	2,503,332	291,360	1,033,819	998,238	158,817	20,850	248	1
National Science Foundation	296,631	297	383	29,180	252,316	14,455	0	1
State rank	1	3	1	1	1	2	2	

Federal R&D obligations are as reported by funding agencies.

FFRDC = federally funded research and development center

SBIR = small business innovation research

na = not applicable

Prepared by the National Science Foundation/Division of Science Resources Studies. Data compiled from numerous sources.

COLORADO

Science and Engineering Profile

	CO	U.S.	Rank
Doctoral scientists, 1995	9,261	453,928	17
Doctoral engineers, 1995	1,945	86,738	13
S&E doctorates awarded, 1996	545	27,230	17
of which, in engineering	28%	23%	
in life sciences	20%	25%	
in physical sciences	16%	14%	
S&E postdoctorates, 1995 in doctorate-granting institutions	861	35,379	13
S&E graduate students, 1996 in doctorate-granting institutions	8,932	436,328	17
Population, 1996 (000s)	3,823	269,067	25
Civilian labor force, 1996 (000s)	2,102	135,528	22
Personal income per capita, 1996	$25,084	$24,231	14
Federal spending			
Total expenditures, 1996 (millions)	$20,009	$1,368,858	23
R&D obligations, 1995 (millions)	$965	$67,080	18

	CO	U.S.	Rank
Total R&D performance, 1995 (millions)	$2,603	$177,210	20
Industry R&D, 1995 (millions)	$1,865	$130,332	17
Academic R&D, 1995 (millions)	$394	$21,606	18
of which, in life sciences	47%	55%	
in engineering	15%	16%	
in environmental sciences	14%	6%	
Higher education current-fund expenditures, 1995 (millions)	$2,205	$182,602	26
Number of SBIR awards, 1990-1996	990	26,399	6
Patents issued to state residents, 1996	1,178	61,099	16
Gross state product, 1994 (billions)	$99.8	$6,876.0	23
of which, agriculture	2%	2%	
manufacturing, mining, construction	19%	23%	
transportation, communication, utilities	11%	9%	
wholesale and retail trade	16%	16%	
finance, insurance, real estate	17%	19%	
services	21%	20%	
government	14%	13%	

Rankings and totals are based on data for the 50 states, D.C., and Puerto Rico.

Data on S&E postdoctorates and S&E graduate students include health fields.

Federal Obligations for Research and Development in Colorado by Agency and Performer: Fiscal Year 1995

[Thousands of Dollars]

	Total	Federal intramural	All FFRDCs	Industrial firms	Universities & colleges	Other nonprofits	State & local government	State rank
Total, all agencies	965,060	167,869	84,226	434,627	227,195	46,418	4,725	18
Department of Agriculture	30,093	22,319	0	0	7,774	0	0	17
Department of Commerce	76,164	69,884	0	2,080	4,200	0	0	3
Department of Defense	372,513	20,579	462	329,949	21,513	10	0	19
Department of Energy	39,115	3,142	4,743	20,279	9,721	1,230	0	19
Dept. of Health & Human Services	151,008	0	0	4,259	115,574	27,771	3,404	19
Department of the Interior	45,647	43,378	0	186	1,984	0	99	2
Department of Transportation	7,702	460	0	1,392	0	4,740	1,110	20
Environmental Protection Agency	6,364	0	0	2,161	2,366	1,837	0	19
Nat'l Aeronautics & Space Admin.	115,796	6,542	7,449	71,161	20,937	9,707	0	11
National Science Foundation	120,658	1,565	71,572	3,160	43,126	1,123	112	4
State rank	18	18	11	16	17	13	15	

Federal R&D obligations are as reported by funding agencies.

FFRDC = federally funded research and development center

SBIR = small business innovation research

na = not applicable

Prepared by the National Science Foundation/Division of Science Resources Studies. Data compiled from numerous sources.

CONNECTICUT

Science and Engineering Profile

	CT	U.S.	Rank
Doctoral scientists, 1995	7,643	453,928	20
Doctoral engineers, 1995	1,151	86,738	24
S&E doctorates awarded, 1996	391	27,230	23
of which, in life sciences	31%	25%	
in social sciences	20%	15%	
in engineering	14%	23%	
S&E postdoctorates, 1995 in doctorate-granting institutions	1,130	35,379	8
S&E graduate students, 1995 in doctorate-granting institutions	5,017	436,328	28
Population, 1996 (000s)	3,274	269,067	29
Civilian labor force, 1996 (000s)	1,720	135,528	28
Personal income per capita, 1996	$33,189	$24,231	2
Federal spending			
Total expenditures, 1996 (millions)	$17,915	$1,368,858	28
R&D obligations, 1995 (millions)	$902	$67,080	20

	CT	U.S.	Rank
Total R&D performance, 1995 (millions)	$4,311	$177,210	13
Industry R&D, 1995 (millions)	$3,906	$130,332	12
Academic R&D, 1995 (millions)	$377	$21,606	20
of which, in life sciences	70%	55%	
in engineering	11%	16%	
in physical sciences	7%	10%	
Higher education current-fund expenditures, 1995 (millions)	$2,743	$182,602	23
Number of SBIR awards, 1990-1996	851	26,399	9
Patents issued to state residents, 1996	1,452	61,099	12
Gross state product, 1994 (billions)	$110.4	$6,876.0	21
of which, agriculture	1%	2%	
manufacturing, mining, construction	20%	23%	
transportation, communication, utilities	7%	9%	
wholesale and retail trade	15%	16%	
finance, insurance, real estate	27%	19%	
services	21%	20%	
government	9%	13%	

Rankings and totals are based on data for the 50 states, D.C., and Puerto Rico.

Data on S&E postdoctorates and S&E graduate students include health fields.

Federal Obligations for Research and Development in Connecticut by Agency and Performer: Fiscal Year 1995

[Thousands of Dollars]

	Total	Federal intramural	All FFRDCs	Industrial firms	Universities & colleges	Other nonprofits	State & local government	State rank
Total, all agencies	902,334	17,690	0	635,941	234,126	9,737	4,840	20
Department of Agriculture	5,470	1,985	0	0	2,277	0	1,208	48
Department of Commerce	7,806	39	0	4,315	3,399	0	53	25
Department of Defense	558,660	6,306	0	539,273	13,081	0	0	17
Department of Energy	62,991	0	0	52,992	9,999	0	0	16
Dept. of Health & Human Services	200,739	0	0	4,665	185,648	8,873	1,553	16
Department of the Interior	1,275	1,159	0	38	78	0	0	51
Department of Transportation	13,723	8,201	0	3,611	54	0	1,857	13
Environmental Protection Agency	1,372	0	0	1,094	113	100	65	32
Nat'l Aeronautics & Space Admin.	29,586	0	0	27,457	1,788	341	0	19
National Science Foundation	20,712	0	0	2,496	17,689	423	104	25
State rank	20	44	na	13	14	25	13	

Federal R&D obligations are as reported by funding agencies.

FFRDC = federally funded research and development center

SBIR = small business innovation research

na = not applicable

Prepared by the National Science Foundation/Division of Science Resources Studies. Data compiled from numerous sources.

DELAWARE

Science and Engineering Profile

	DE	U.S.	Rank
Doctoral scientists, 1995	3,197	453,928	35
Doctoral engineers, 1995	707	86,738	32
S&E doctorates awarded, 1996	136	27,230	38
of which, in engineering	32%	23%	
in physical sciences	16%	14%	
in life sciences	13%	25%	
S&E postdoctorates, 1995 in doctorate-granting institutions	69	35,379	42
S&E graduate students, 1995 in doctorate-granting institutions	1,722	436,328	41
Population, 1996 (000s)	725	269,067	47
Civilian labor force, 1996 (000s)	382	135,528	47
Personal income per capita, 1996	$27,622	$24,231	6
Federal spending			
Total expenditures, 1996 (millions)	$3,364	$1,368,858	50
R&D obligations, 1995 (millions)	$56	$67,080	46

	DE	U.S.	Rank
Total R&D performance, 1995 (millions)	$1,149	$177,210	28
Industry R&D, 1995 (millions)	$1,077	$130,332	23
Academic R&D, 1995 (millions)	$53	$21,606	47
of which, in engineering	28%	16%	
in life sciences	22%	55%	
in physical sciences	20%	10%	
Higher education current-fund expenditures, 1995 (millions)	$502	$182,602	46
Number of SBIR awards, 1990-1996	91	26,399	30
Patents issued to state residents, 1996	454	61,099	28
Gross state product, 1994 (billions)	$26.7	$6,876.0	43
of which, agriculture	1%	2%	
manufacturing, mining, construction	24%	23%	
transportation, communication, utilities	5%	9%	
wholesale and retail trade	10%	16%	
finance, insurance, real estate	39%	19%	
services	13%	20%	
government	9%	13%	

Rankings and totals are based on data for the 50 states, D.C., and Puerto Rico.

Data on S&E postdoctorates and S&E graduate students include health fields.

Federal Obligations for Research and Development in Delaware by Agency and Performer: Fiscal Year 1995

[Thousands of Dollars]

	Total	Federal intramural	All FFRDCs	Industrial firms	Universities & colleges	Other nonprofits	State & local government	State rank
Total, all agencies	56,381	15,477	0	15,449	21,934	2,994	527	46
Department of Agriculture	4,084	996	0	50	3,038	0	0	50
Department of Commerce	8,240	1,155	0	5,857	1,188	0	40	24
Department of Defense	21,175	10,023	0	6,462	4,690	0	0	38
Department of Energy	1,562	0	0	109	1,048	405	0	46
Dept. of Health & Human Services	4,869	0	0	483	3,595	704	87	47
Department of the Interior	769	643	0	0	116	0	10	52
Department of Transportation	4,222	2,660	0	1,072	100	0	390	27
Environmental Protection Agency	522	0	0	0	522	0	0	42
Nat'l Aeronautics & Space Admin.	2,358	0	0	1,026	480	852	0	40
National Science Foundation	8,580	0	0	390	7,157	1,033	0	40
State rank	46	45	na	39	46	38	52	

Federal R&D obligations are as reported by funding agencies.

FFRDC = federally funded research and development center

SBIR = small business innovation research

na = not applicable

Prepared by the National Science Foundation/Division of Science Resources Studies. Data compiled from numerous sources.

DISTRICT OF COLUMBIA

Science and Engineering Profile

	DC	U.S.	Rank
Doctoral scientists, 1995	12,746	453,928	11
Doctoral engineers, 1995	1,055	86,738	25
S&E doctorates awarded, 1996	304	27,230	26
of which, in social sciences	34%	15%	
in life sciences	21%	25%	
in psychology	15%	13%	
S&E postdoctorates, 1995 in doctorate-granting institutions	148	35,379	35
S&E graduate students, 1995 in doctorate-granting institutions	9,521	436,328	14
Population, 1996 (000s)	543	269,067	51
Civilian labor force, 1996 (000s)	272	135,528	51
Personal income per capita, 1996	$34,932	$24,231	1
Federal spending			
Total expenditures, 1996 (millions)	$22,475	$1,368,858	20
R&D obligations, 1995 (millions)	$2,805	$67,080	7

	DC	U.S.	Rank
Total R&D performance, 1995 (millions)	$3,128	$177,210	18
Industry R&D, 1995 (millions)	$672	$130,332	32
Academic R&D, 1995 (millions)	$181	$21,606	32
of which, in life sciences	67%	55%	
in physical sciences	10%	10%	
in engineering	9%	16%	
Higher education current-fund expenditures, 1995 (millions)	$2,633	$182,602	24
Number of SBIR awards, 1990-1996	71	26,399	34
Patents issued to state residents, 1996	40	61,099	49
Gross state product, 1994 (billions)	$48.0	$6,876.0	34
of which, agriculture	0%	2%	
manufacturing, mining, construction	4%	23%	
transportation, communication, utilities	5%	9%	
wholesale and retail trade	4%	16%	
finance, insurance, real estate	14%	19%	
services	33%	20%	
government	40%	13%	

Rankings and totals are based on data for the 50 states, D.C., and Puerto Rico.

Data on S&E postdoctorates and S&E graduate students include health fields.

Federal Obligations for Research and Development in District of Columbia by Agency and Performer: Fiscal Year 1995

[Thousands of Dollars]

	Total	Federal intramural	All FFRDCs	Industrial firms	Universities & colleges	Other nonprofits	State & local government	State rank
Total, all agencies	2,805,093	2,106,077	0	381,390	147,605	168,518	1,503	7
Department of Agriculture	142,064	133,228	0	8,052	611	173	0	1
Department of Commerce	27,486	26,345	0	145	891	105	0	12
Department of Defense	1,396,543	1,132,832	0	207,890	43,070	12,751	0	7
Department of Energy	349,156	300,628	0	38,062	4,144	6,322	0	6
Dept. of Health & Human Services	221,291	95,802	0	14,281	71,805	39,194	209	14
Department of the Interior	14,869	14,566	0	13	119	171	0	8
Department of Transportation	177,455	91,279	0	63,983	5,380	15,554	1,259	1
Environmental Protection Agency	60,381	45,398	0	2,178	492	12,313	0	2
Nat'l Aeronautics & Space Admin.	341,121	259,276	0	42,904	8,258	30,648	35	8
National Science Foundation	74,727	6,723	0	3,882	12,835	51,287	0	8
State rank	7	2	na	17	25	5	41	

Federal R&D obligations are as reported by funding agencies.

FFRDC = federally funded research and development center

SBIR = small business innovation research

na = not applicable

Prepared by the National Science Foundation/Division of Science Resources Studies. Data compiled from numerous sources.

FLORIDA

Science and Engineering Profile

	FL	U.S.	Rank
Doctoral scientists, 1995	12,403	453,928	14
Doctoral engineers, 1995	2,633	86,738	12
S&E doctorates awarded, 1996	762	27,230	9
of which, in engineering	24%	23%	
in life sciences	21%	25%	
in psychology	19%	13%	
S&E postdoctorates, 1995 in doctorate-granting institutions	543	35,379	21
S&E graduate students, 1995 in doctorate-granting institutions	16,531	436,328	9
Population, 1996 (000s)	14,400	269,067	4
Civilian labor force, 1996 (000s)	6,938	135,528	4
Personal income per capita, 1996	$24,104	$24,231	21
Federal spending			
Total expenditures, 1996 (millions)	$79,167	$1,368,858	4
R&D obligations, 1995 (millions)	$2,404	$67,080	10

	FL	U.S.	Rank
Total R&D performance, 1995 (millions)	$5,223	$177,210	12
Industry R&D, 1995 (millions)	$4,101	$130,332	10
Academic R&D, 1995 (millions)	$559	$21,606	12
of which, in life sciences	48%	55%	
in engineering	16%	16%	
in physical sciences	15%	10%	
Higher education current-fund expenditures, 1995 (millions)	$5,222	$182,602	10
Number of SBIR awards, 1990-1996	558	26,399	13
Patents issued to state residents, 1996	2,082	61,099	10
Gross state product, 1994 (billions)	$317.8	$6,876.0	5
of which, agriculture	2%	2%	
manufacturing, mining, construction	13%	23%	
transportation, communication, utilities	9%	9%	
wholesale and retail trade	18%	16%	
finance, insurance, real estate	21%	19%	
services	23%	20%	
government	13%	13%	

Rankings and totals are based on data for the 50 states, D.C., and Puerto Rico.

Data on S&E postdoctorates and S&E graduate students include health fields.

Federal Obligations for Research and Development in Florida by Agency and Performer: Fiscal Year 1995

[Thousands of Dollars]

	Total	Federal intramural	All FFRDCs	Industrial firms	Universities & colleges	Other nonprofits	State & local government	State rank
Total, all agencies	2,403,899	554,440	0	1,573,440	262,972	8,165	4,882	10
Department of Agriculture	33,691	21,115	0	80	12,461	35	0	13
Department of Commerce	29,084	23,323	0	1,938	3,682	20	121	11
Department of Defense	1,744,366	294,493	0	1,404,755	45,118	0	0	6
Department of Energy	21,046	0	0	9,542	10,827	677	0	25
Dept. of Health & Human Services	127,429	0	0	6,129	116,198	3,933	1,169	23
Department of the Interior	14,195	10,944	0	69	3,124	0	58	9
Department of Transportation	5,280	375	0	1,149	955	0	2,801	25
Environmental Protection Agency	18,670	7,823	0	8,583	2,122	0	142	9
Nat'l Aeronautics & Space Admin.	356,445	196,367	0	140,980	17,734	773	591	7
National Science Foundation	53,693	0	0	215	50,751	2,727	0	13
State rank	10	7	na	5	12	27	12	

Federal R&D obligations are as reported by funding agencies.

FFRDC = federally funded research and development center

SBIR = small business innovation research

na = not applicable

Prepared by the National Science Foundation/Division of Science Resources Studies. Data compiled from numerous sources.

GEORGIA

Science and Engineering Profile

	GA	U.S.	Rank
Doctoral scientists, 1995	9,300	453,928	16
Doctoral engineers, 1995	1,154	86,738	23
S&E doctorates awarded, 1996	599	27,230	15
of which, in engineering	29%	23%	
in life sciences	27%	25%	
in psychology	15%	13%	
S&E postdoctorates, 1995 in doctorate-granting institutions	516	35,379	22
S&E graduate students, 1995 in doctorate-granting institutions	9,044	436,328	15
Population, 1996 (000s)	7,353	269,067	10
Civilian labor force, 1996 (000s)	3,753	135,528	11
Personal income per capita, 1996	$22,709	$24,231	27
Federal spending			
Total expenditures, 1996 (millions)	$34,731	$1,368,858	14
R&D obligations, 1995 (millions)	$4,366	$67,080	3

	GA	U.S.	Rank
Total R&D performance, 1995 (millions)	$2,113	$177,210	23
Industry R&D, 1995 (millions)	$1,175	$130,332	22
Academic R&D, 1995 (millions)	$658	$21,606	10
of which, in life sciences	51%	55%	
in engineering	25%	16%	
in physical sciences	8%	10%	
Higher education current-fund expenditures, 1995 (millions)	$4,527	$182,602	11
Number of SBIR awards, 1990-1996	187	26,399	26
Patents issued to state residents, 1996	967	61,099	20
Gross state product, 1994 (billions)	$183.0	$6,876.0	11
of which, agriculture	2%	2%	
manufacturing, mining, construction	22%	23%	
transportation, communication, utilities	12%	9%	
wholesale and retail trade	18%	16%	
finance, insurance, real estate	16%	19%	
services	17%	20%	
government	13%	13%	

Rankings and totals are based on data for the 50 states, D.C., and Puerto Rico.

Data on S&E postdoctorates and S&E graduate students include health fields.

Federal Obligations for Research and Development in Georgia by Agency and Performer: Fiscal Year 1995

[Thousands of Dollars]

	Total	Federal intramural	All FFRDCs	Industrial firms	Universities & colleges	Other nonprofits	State & local government	State rank
Total, all agencies	4,365,770	272,178	0	3,849,787	232,133	7,766	3,906	3
Department of Agriculture	51,341	38,047	0	0	13,043	0	251	5
Department of Commerce	2,280	362	0	1,208	700	0	10	33
Department of Defense	3,900,416	18,924	0	3,832,613	47,072	1,807	0	2
Department of Energy	15,294	0	0	1,039	13,669	586	0	29
Dept. of Health & Human Services	306,242	190,976	0	815	111,227	2,859	365	10
Department of the Interior	6,221	5,871	0	0	350	0	0	21
Department of Transportation	7,302	613	0	1,707	1,061	1,687	2,234	21
Environmental Protection Agency	18,054	9,014	0	3,697	5,333	10	0	10
Nat'l Aeronautics & Space Admin.	31,110	8,371	0	6,893	15,085	761	0	18
National Science Foundation	27,510	0	0	1,815	24,593	56	1,046	22
State rank	3	13	na	2	16	28	18	

Federal R&D obligations are as reported by funding agencies.

FFRDC = federally funded research and development center

SBIR = small business innovation research

na = not applicable

Prepared by the National Science Foundation/Division of Science Resources Studies. Data compiled from numerous sources.

HAWAII

Science and Engineering Profile

	HI	U.S.	Rank
Doctoral scientists, 1995	2,293	453,928	38
Doctoral engineers, 1995	202	86,738	46
S&E doctorates awarded, 1996	129	27,230	39
of which, in social sciences	40%	15%	
in life sciences	29%	25%	
in environmental sciences	12%	3%	
S&E postdoctorates, 1995 in doctorate-granting institutions	91	35,379	37
S&E graduate students, 1995 in doctorate-granting institutions	2,254	436,328	38
Population, 1996 (000s)	1,184	269,067	42
Civilian labor force, 1996 (000s)	591	135,528	43
Personal income per capita, 1996	$25,159	$24,231	12
Federal spending			
Total expenditures, 1996 (millions)	$8,016	$1,368,858	39
R&D obligations, 1995 (millions)	$480	$67,080	26

	HI	U.S.	Rank
Total R&D performance, 1995 (millions)	$509	$177,210	38
Industry R&D, 1995 (millions)	$14	$130,332	50
Academic R&D, 1995 (millions)	$78	$21,606	41
of which, in life sciences	41%	55%	
in physical sciences	34%	10%	
in environmental sciences	10%	6%	
Higher education current-fund expenditures, 1995 (millions)	$754	$182,602	42
Number of SBIR awards, 1990-1996	95	26,399	29
Patents issued to state residents, 1996	80	61,099	46
Gross state product, 1994 (billions)	$36.7	$6,876.0	40
of which, agriculture	1%	2%	
manufacturing, mining, construction	9%	23%	
transportation, communication, utilities	9%	9%	
wholesale and retail trade	15%	16%	
finance, insurance, real estate	23%	19%	
services	21%	20%	
government	21%	13%	

Rankings and totals are based on data for the 50 states, D.C., and Puerto Rico.

Data on S&E postdoctorates and S&E graduate students include health fields.

Federal Obligations for Research and Development in Hawaii by Agency and Performer: Fiscal Year 1995

[Thousands of Dollars]

	Total	Federal intramural	All FFRDCs	Industrial firms	Universities & colleges	Other nonprofits	State & local government	State rank
Total, all agencies	480,428	401,963	0	11,179	51,060	14,520	1,706	26
Department of Agriculture	20,296	9,987	0	0	4,941	5,368	0	23
Department of Commerce	11,085	7,599	0	237	3,121	0	128	22
Department of Defense	48,940	33,676	0	9,560	4,889	10	805	30
Department of Energy	6,074	0	0	0	3,106	2,968	0	36
Dept. of Health & Human Services	360,789	340,000	0	606	14,532	5,560	91	8
Department of the Interior	10,797	10,651	0	0	100	0	46	13
Department of Transportation	636	0	0	0	0	0	636	49
Environmental Protection Agency	246	0	0	0	171	75	0	46
Nat'l Aeronautics & Space Admin.	7,424	50	0	659	6,715	0	0	32
National Science Foundation	14,141	0	0	117	13,485	539	0	30
State rank	26	10	na	42	37	22	38	

Federal R&D obligations are as reported by funding agencies.

FFRDC = federally funded research and development center

SBIR = small business innovation research

na = not applicable

Prepared by the National Science Foundation/Division of Science Resources Studies. Data compiled from numerous sources.

IDAHO

Science and Engineering Profile

	ID	U.S.	Rank
Doctoral scientists, 1995	1,649	453,928	45
Doctoral engineers, 1995	382	86,738	40
S&E doctorates awarded, 1996	56	27,230	43
of which, in engineering	30%	23%	
in life sciences	29%	25%	
in physical sciences	23%	14%	
S&E postdoctorates, 1995 in doctorate-granting institutions	44	35,379	46
S&E graduate students, 1995 in doctorate-granting institutions	1,688	436,328	42
Population, 1996 (000s)	1,189	269,067	41
Civilian labor force, 1996 (000s)	619	135,528	42
Personal income per capita, 1996	$19,539	$24,231	44
Federal spending			
Total expenditures, 1996 (millions)	$5,476	$1,368,858	44
R&D obligations, 1995 (millions)	$211	$67,080	36

	ID	U.S.	Rank
Total R&D performance, 1995 (millions)	$914	$177,210	32
Industry R&D, 1995 (millions)	$827	$130,332	27
Academic R&D, 1995 (millions)	$59	$21,606	45
of which, in life sciences	73%	55%	
in engineering	14%	16%	
in physical sciences	5%	10%	
Higher education current-fund expenditures, 1995 (millions)	$572	$182,602	45
Number of SBIR awards, 1990-1996	34	26,399	43
Patents issued to state residents, 1996	365	61,099	32
Gross state product, 1994 (billions)	$24.2	$6,876.0	45
of which, agriculture	6%	2%	
manufacturing, mining, construction	26%	23%	
transportation, communication, utilities	9%	9%	
wholesale and retail trade	16%	16%	
finance, insurance, real estate	13%	19%	
services	16%	20%	
government	14%	13%	

Rankings and totals are based on data for the 50 states, D.C., and Puerto Rico.

Data on S&E postdoctorates and S&E graduate students include health fields.

Federal Obligations for Research and Development in Idaho by Agency and Performer: Fiscal Year 1995

[Thousands of Dollars]

	Total	Federal intramural	All FFRDCs	Industrial firms	Universities & colleges	Other nonprofits	State & local government	State rank
Total, all agencies	211,063	27,792	65,810	101,893	13,536	548	1,484	36
Department of Agriculture	18,429	13,304	0	0	5,090	35	0	27
Department of Commerce	476	476	0	0	0	0	0	40
Department of Defense	12,889	3,659	1,546	6,221	1,463	0	0	42
Department of Energy	161,093	1,080	63,753	95,417	253	20	570	10
Dept. of Health & Human Services	1,806	0	0	0	1,068	493	245	51
Department of the Interior	9,687	8,805	0	40	842	0	0	15
Department of Transportation	1,330	0	511	150	0	0	669	42
Environmental Protection Agency	769	0	0	0	769	0	0	39
Nat'l Aeronautics & Space Admin.	724	468	0	0	256	0	0	49
National Science Foundation	3,860	0	0	65	3,795	0	0	48
State rank	36	41	12	27	50	51	42	

Federal R&D obligations are as reported by funding agencies.

FFRDC = federally funded research and development center

SBIR = small business innovation research

na = not applicable

Prepared by the National Science Foundation/Division of Science Resources Studies. Data compiled from numerous sources.

ILLINOIS

Science and Engineering Profile

	IL	U.S.	Rank
Doctoral scientists, 1995	18,868	453,928	7
Doctoral engineers, 1995	3,204	86,738	9
S&E doctorates awarded, 1996	1,476	27,230	5
of which, in engineering	22%	23%	
in life sciences	21%	25%	
in social sciences	20%	15%	
S&E postdoctorates, 1995 in doctorate-granting institutions	1,070	35,379	9
S&E graduate students, 1995 in doctorate-granting institutions	21,181	436,328	6
Population, 1996 (000s)	11,847	269,067	6
Civilian labor force, 1996 (000s)	6,100	135,528	5
Personal income per capita, 1996	$26,598	$24,231	8
Federal spending			
Total expenditures, 1996 (millions)	$51,232	$1,368,858	6
R&D obligations, 1995 (millions)	$1,116	$67,080	17

	IL	U.S.	Rank
Total R&D performance, 1995 (millions)	$7,487	$177,210	7
Industry R&D, 1995 (millions)	$5,776	$130,332	7
Academic R&D, 1995 (millions)	$818	$21,606	7
of which, in life sciences	52%	55%	
in engineering	12%	16%	
in physical sciences	11%	10%	
Higher education current-fund expenditures, 1995 (millions)	$9,397	$182,602	5
Number of SBIR awards, 1990-1996	390	26,399	19
Patents issued to state residents, 1996	3,144	61,099	5
Gross state product, 1994 (billions)	$332.9	$6,876.0	4
of which, agriculture	1%	2%	
manufacturing, mining, construction	23%	23%	
transportation, communication, utilities	10%	9%	
wholesale and retail trade	16%	16%	
finance, insurance, real estate	19%	19%	
services	20%	20%	
government	10%	13%	

Rankings and totals are based on data for the 50 states, D.C., and Puerto Rico.

Data on S&E postdoctorates and S&E graduate students include health fields.

Federal Obligations for Research and Development in Illinois by Agency and Performer: Fiscal Year 1995

[Thousands of Dollars]

	Total	Federal intramural	All FFRDCs	Industrial firms	Universities & colleges	Other nonprofits	State & local government	State rank
Total, all agencies	1,116,137	80,626	421,040	133,876	434,009	41,416	5,170	17
Department of Agriculture	43,469	31,311	0	240	11,904	14	0	7
Department of Commerce	19,638	540	4	17,652	1,442	0	0	14
Department of Defense	147,523	44,144	2,922	42,955	56,284	1,218	0	25
Department of Energy	499,033	0	417,794	56,875	21,481	2,454	429	4
Dept. of Health & Human Services	266,000	1,945	0	5,126	224,107	34,015	807	12
Department of the Interior	2,291	2,019	80	57	82	0	53	44
Department of Transportation	12,212	0	0	4,324	4,207	300	3,381	14
Environmental Protection Agency	3,941	0	0	1,737	1,344	360	500	24
Nat'l Aeronautics & Space Admin.	17,507	667	240	3,787	11,809	1,004	0	24
National Science Foundation	104,523	0	0	1,123	101,349	2,051	0	6
State rank	17	25	3	25	8	15	11	

Federal R&D obligations are as reported by funding agencies.

FFRDC = federally funded research and development center

SBIR = small business innovation research

na = not applicable

Prepared by the National Science Foundation/Division of Science Resources Studies. Data compiled from numerous sources.

INDIANA

Science and Engineering Profile

	IN	U.S.	Rank
Doctoral scientists, 1995	7,156	453,928	22
Doctoral engineers, 1995	1,441	86,738	18
S&E doctorates awarded, 1996	750	27,230	10
of which, in engineering	25%	23%	
in life sciences	22%	25%	
in physical sciences	16%	14%	
S&E postdoctorates, 1995 in doctorate-granting institutions	602	35,379	18
S&E graduate students, 1995 in doctorate-granting institutions	10,140	436,328	12
Population, 1996 (000s)	5,841	269,067	14
Civilian labor force, 1996 (000s)	3,072	135,528	14
Personal income per capita, 1996	$22,440	$24,231	30
Federal spending			
Total expenditures, 1996 (millions)	$24,216	$1,368,858	18
R&D obligations, 1995 (millions)	$426	$67,080	27

	IN	U.S.	Rank
Total R&D performance, 1995 (millions)	$3,163	$177,210	17
Industry R&D, 1995 (millions)	$2,721	$130,332	13
Academic R&D, 1995 (millions)	$376	$21,606	21
of which, in life sciences	50%	55%	
in engineering	18%	16%	
in physical sciences	16%	10%	
Higher education current-fund expenditures, 1995 (millions)	$4,041	$182,602	14
Number of SBIR awards, 1990-1996	119	26,399	27
Patents issued to state residents, 1996	1,277	61,099	14
Gross state product, 1994 (billions)	$138.2	$6,876.0	15
of which, agriculture	2%	2%	
manufacturing, mining, construction	36%	23%	
transportation, communication, utilities	8%	9%	
wholesale and retail trade	15%	16%	
finance, insurance, real estate	13%	19%	
services	15%	20%	
government	10%	13%	

Rankings and totals are based on data for the 50 states, D.C., and Puerto Rico.

Data on S&E postdoctorates and S&E graduate students include health fields.

Federal Obligations for Research and Development in Indiana by Agency and Performer: Fiscal Year 1995

[Thousands of Dollars]

	Total	Federal intramural	All FFRDCs	Industrial firms	Universities & colleges	Other nonprofits	State & local government	State rank
Total, all agencies	426,192	62,061	0	183,529	173,978	3,596	3,028	27
Department of Agriculture	16,342	4,902	0	80	11,090	110	160	29
Department of Commerce	1,061	105	0	535	409	12	0	38
Department of Defense	229,504	53,105	0	158,806	14,622	2,971	0	22
Department of Energy	21,849	0	0	6,260	15,589	0	0	24
Dept. of Health & Human Services	91,482	150	0	3,085	86,535	367	1,345	26
Department of the Interior	2,670	2,579	0	0	91	0	0	41
Department of Transportation	8,218	0	0	6,716	0	0	1,502	19
Environmental Protection Agency	2,631	0	0	2,115	495	0	21	27
Nat'l Aeronautics & Space Admin.	11,447	1,220	0	5,460	4,631	136	0	28
National Science Foundation	40,988	0	0	472	40,516	0	0	17
State rank	27	27	na	22	22	35	27	

Federal R&D obligations are as reported by funding agencies.

FFRDC = federally funded research and development center

SBIR = small business innovation research

na = not applicable

Prepared by the National Science Foundation/Division of Science Resources Studies. Data compiled from numerous sources.

IOWA

Science and Engineering Profile

	IA	U.S.	Rank
Doctoral scientists, 1995	4,071	453,928	30
Doctoral engineers, 1995	604	86,738	33
S&E doctorates awarded, 1996	457	27,230	20
of which, in life sciences	34%	25%	
in engineering	26%	23%	
in physical sciences	14%	14%	
S&E postdoctorates, 1995 in doctorate-granting institutions	551	35,379	20
S&E graduate students, 1995 in doctorate-granting institutions	5,452	436,328	27
Population, 1996 (000s)	2,852	269,067	31
Civilian labor force, 1996 (000s)	1,599	135,528	29
Personal income per capita, 1996	$22,560	$24,231	29
Federal spending			
Total expenditures, 1996 (millions)	$13,408	$1,368,858	32
R&D obligations, 1995 (millions)	$214	$67,080	33

	IA	U.S.	Rank
Total R&D performance, 1995 (millions)	$1,391	$177,210	27
Industry R&D, 1995 (millions)	$998	$130,332	26
Academic R&D, 1995 (millions)	$323	$21,606	24
of which, in life sciences	60%	55%	
in engineering	21%	16%	
in physical sciences	8%	10%	
Higher education current-fund expenditures, 1995 (millions)	$2,753	$182,602	22
Number of SBIR awards, 1990-1996	40	26,399	41
Patents issued to state residents, 1996	432	61,099	29
Gross state product, 1994 (billions)	$68.3	$6,876.0	29
of which, agriculture	7%	2%	
manufacturing, mining, construction	29%	23%	
transportation, communication, utilities	8%	9%	
wholesale and retail trade	16%	16%	
finance, insurance, real estate	14%	19%	
services	15%	20%	
government	12%	13%	

Rankings and totals are based on data for the 50 states, D.C., and Puerto Rico.

Data on S&E postdoctorates and S&E graduate students include health fields.

Federal Obligations for Research and Development in Iowa by Agency and Performer: Fiscal Year 1995

[Thousands of Dollars]

	Total	Federal intramural	All FFRDCs	Industrial firms	Universities & colleges	Other nonprofits	State & local government	State rank
Total, all agencies	214,316	37,257	29,815	12,623	130,285	1,054	3,282	33
Department of Agriculture	39,159	25,737	0	0	13,422	0	0	9
Department of Commerce	1,343	0	0	17	1,326	0	0	36
Department of Defense	21,335	1,079	30	10,796	9,421	9	0	37
Department of Energy	28,913	0	25,930	0	2,983	0	0	23
Dept. of Health & Human Services	82,815	0	0	100	80,327	995	1,393	28
Department of the Interior	2,526	2,438	0	0	88	0	0	42
Department of Transportation	15,988	8,003	3,855	62	2,755	0	1,313	10
Environmental Protection Agency	2,766	0	0	0	2,140	50	576	26
Nat'l Aeronautics & Space Admin.	7,197	0	0	1,548	5,649	0	0	34
National Science Foundation	12,274	0	0	100	12,174	0	0	33
State rank	33	35	14	41	27	46	24	

Federal R&D obligations are as reported by funding agencies.

FFRDC = federally funded research and development center

SBIR = small business innovation research

na = not applicable

Prepared by the National Science Foundation/Division of Science Resources Studies. Data compiled from numerous sources.

KANSAS

Science and Engineering Profile

	KS	U.S.	Rank
Doctoral scientists, 1995	3,510	453,928	34
Doctoral engineers, 1995	516	86,738	34
S&E doctorates awarded, 1996	284	27,230	30
of which, in life sciences	30%	25%	
in psychology	20%	13%	
in engineering	17%	23%	
S&E postdoctorates, 1995 in doctorate-granting institutions	268	35,379	29
S&E graduate students, 1995 in doctorate-granting institutions	6,013	436,328	25
Population, 1996 (000s)	2,572	269,067	33
Civilian labor force, 1996 (000s)	1,340	135,528	31
Personal income per capita, 1996	$23,281	$24,231	23
Federal spending			
Total expenditures, 1996 (millions)	$12,347	$1,368,858	33
R&D obligations, 1995 (millions)	$121	$67,080	40

	KS	U.S.	Rank
Total R&D performance, 1995 (millions)	$764	$177,210	34
Industry R&D, 1995 (millions)	$569	$130,332	33
Academic R&D, 1995 (millions)	$181	$21,606	32
of which, in life sciences	59%	55%	
in engineering	15%	16%	
in physical sciences	9%	10%	
Higher education current-fund expenditures, 1995 (millions)	$1,676	$182,602	32
Number of SBIR awards, 1990-1996	50	26,399	38
Patents issued to state residents, 1996	291	61,099	34
Gross state product, 1994 (billions)	$61.8	$6,876.0	31
of which, agriculture	5%	2%	
manufacturing, mining, construction	23%	23%	
transportation, communication, utilities	12%	9%	
wholesale and retail trade	17%	16%	
finance, insurance, real estate	13%	19%	
services	16%	20%	
government	15%	13%	

Rankings and totals are based on data for the 50 states, D.C., and Puerto Rico.

Data on S&E postdoctorates and S&E graduate students include health fields.

Federal Obligations for Research and Development in Kansas by Agency and Performer: Fiscal Year 1995

[Thousands of Dollars]

	Total	Federal intramural	All FFRDCs	Industrial firms	Universities & colleges	Other nonprofits	State & local government	State rank
Total, all agencies	120,846	12,296	0	42,764	62,934	910	1,942	40
Department of Agriculture	12,981	6,181	0	80	6,720	0	0	36
Department of Commerce	173	173	0	0	0	0	0	44
Department of Defense	43,422	2,658	0	39,409	1,355	0	0	31
Department of Energy	6,164	0	0	378	5,774	12	0	35
Dept. of Health & Human Services	34,479	0	0	1,558	31,195	898	828	37
Department of the Interior	3,362	3,284	0	0	78	0	0	37
Department of Transportation	1,514	0	0	0	400	0	1,114	37
Environmental Protection Agency	4,970	0	0	0	4,970	0	0	21
Nat'l Aeronautics & Space Admin.	3,512	0	0	1,208	2,304	0	0	38
National Science Foundation	10,269	0	0	131	10,138	0	0	36
State rank	40	47	na	32	32	48	37	

Federal R&D obligations are as reported by funding agencies.

FFRDC = federally funded research and development center

SBIR = small business innovation research

na = not applicable

Prepared by the National Science Foundation/Division of Science Resources Studies. Data compiled from numerous sources.

KENTUCKY

Science and Engineering Profile

	KY	U.S.	Rank
Doctoral scientists, 1995	3,855	453,928	33
Doctoral engineers, 1995	432	86,738	37
S&E doctorates awarded, 1996	197	27,230	33
of which, in life sciences	35%	25%	
in psychology	21%	13%	
in engineering	15%	23%	
S&E postdoctorates, 1995 in doctorate-granting institutions	236	35,379	31
S&E graduate students, 1995 in doctorate-granting institutions	3,615	436,328	33
Population, 1996 (000s)	3,884	269,067	24
Civilian labor force, 1996 (000s)	1,867	135,528	25
Personal income per capita, 1996	$19,687	$24,231	43
Federal spending			
Total expenditures, 1996 (millions)	$19,618	$1,368,858	25
R&D obligations, 1995 (millions)	$76	$67,080	44

	KY	U.S.	Rank
Total R&D performance, 1995 (millions)	$594	$177,210	36
Industry R&D, 1995 (millions)	$452	$130,332	36
Academic R&D, 1995 (millions)	$135	$21,606	35
of which, in life sciences	73%	55%	
in engineering	15%	16%	
in physical sciences	4%	10%	
Higher education current-fund expenditures, 1995 (millions)	$2,012	$182,602	29
Number of SBIR awards, 1990-1996	43	26,399	40
Patents issued to state residents, 1996	319	61,099	33
Gross state product, 1994 (billions)	$86.5	$6,876.0	26
of which, agriculture	3%	2%	
manufacturing, mining, construction	34%	23%	
transportation, communication, utilities	10%	9%	
wholesale and retail trade	14%	16%	
finance, insurance, real estate	11%	19%	
services	14%	20%	
government	14%	13%	

Rankings and totals are based on data for the 50 states, D.C., and Puerto Rico.

Data on S&E postdoctorates and S&E graduate students include health fields.

Federal Obligations for Research and Development in Kentucky by Agency and Performer: Fiscal Year 1995

[Thousands of Dollars]

	Total	Federal intramural	All FFRDCs	Industrial firms	Universities & colleges	Other nonprofits	State & local government	State rank
Total, all agencies	75,670	5,911	0	5,008	61,993	1,102	1,656	44
Department of Agriculture	8,725	0	0	0	8,725	0	0	40
Department of Commerce	71	0	0	1	70	0	0	47
Department of Defense	10,846	4,053	0	4,061	2,732	0	0	43
Department of Energy	5,617	0	0	120	5,477	0	20	39
Dept. of Health & Human Services	36,486	0	0	806	34,073	1,102	505	34
Department of the Interior	1,895	1,817	0	0	78	0	0	46
Department of Transportation	1,419	0	0	6	282	0	1,131	40
Environmental Protection Agency	1,221	0	0	0	1,221	0	0	36
Nat'l Aeronautics & Space Admin.	1,386	41	0	0	1,345	0	0	46
National Science Foundation	8,004	0	0	14	7,990	0	0	41
State rank	44	50	na	46	34	45	39	

Federal R&D obligations are as reported by funding agencies.

FFRDC = federally funded research and development center

SBIR = small business innovation research

na = not applicable

Prepared by the National Science Foundation/Division of Science Resources Studies. Data compiled from numerous sources.

LOUISIANA

Science and Engineering Profile

	LA	U.S.	Rank
Doctoral scientists, 1995	4,926	453,928	27
Doctoral engineers, 1995	787	86,738	30
S&E doctorates awarded, 1996	285	27,230	29
of which, in life sciences	36%	25%	
in social sciences	15%	15%	
in math & computer sciences	13%	8%	
S&E postdoctorates, 1995 in doctorate-granting institutions	290	35,379	27
S&E graduate students, 1995 in doctorate-granting institutions	6,248	436,328	23
Population, 1996 (000s)	4,351	269,067	22
Civilian labor force, 1996 (000s)	1,997	135,528	24
Personal income per capita, 1996	$19,824	$24,231	41
Federal spending			
Total expenditures, 1996 (millions)	$22,118	$1,368,858	21
R&D obligations, 1995 (millions)	$176	$67,080	38

	LA	U.S.	Rank
Total R&D performance, 1995 (millions)	$423	$177,210	41
Industry R&D, 1995 (millions)	$61	$130,332	45
Academic R&D, 1995 (millions)	$315	$21,606	25
of which, in life sciences	64%	55%	
in engineering	14%	16%	
in environmental sciences	7%	6%	
Higher education current-fund expenditures, 1995 (millions)	$2,534	$182,602	25
Number of SBIR awards, 1990-1996	77	26,399	32
Patents issued to state residents, 1996	400	61,099	31
Gross state product, 1994 (billions)	$101.1	$6,876.0	22
of which, agriculture	1%	2%	
manufacturing, mining, construction	32%	23%	
transportation, communication, utilities	11%	9%	
wholesale and retail trade	14%	16%	
finance, insurance, real estate	13%	19%	
services	17%	20%	
government	12%	13%	

Rankings and totals are based on data for the 50 states, D.C., and Puerto Rico.

Data on S&E postdoctorates and S&E graduate students include health fields.

Federal Obligations for Research and Development in Louisiana by Agency and Performer: Fiscal Year 1995

[Thousands of Dollars]

	Total	Federal intramural	All FFRDCs	Industrial firms	Universities & colleges	Other nonprofits	State & local government	State rank
Total, all agencies	176,253	45,108	0	22,035	103,764	1,863	3,483	38
Department of Agriculture	33,149	25,349	0	0	7,760	40	0	14
Department of Commerce	2,910	902	0	687	1,204	0	117	31
Department of Defense	38,354	3,377	0	16,632	18,335	10	0	33
Department of Energy	11,514	175	0	3,963	7,376	0	0	32
Dept. of Health & Human Services	54,438	2,213	0	215	49,753	1,813	444	32
Department of the Interior	15,235	13,090	0	0	2,093	0	52	6
Department of Transportation	1,551	0	0	0	226	0	1,325	36
Environmental Protection Agency	5,868	0	0	149	5,719	0	0	20
Nat'l Aeronautics & Space Admin.	3,738	2	0	304	3,432	0	0	37
National Science Foundation	9,496	0	0	85	7,866	0	1,545	37
State rank	38	32	na	38	29	40	22	

Federal R&D obligations are as reported by funding agencies.

FFRDC = federally funded research and development center

SBIR = small business innovation research

na = not applicable

Prepared by the National Science Foundation/Division of Science Resources Studies. Data compiled from numerous sources.

MAINE

Science and Engineering Profile

	ME	U.S.	Rank		ME	U.S.	Rank
Doctoral scientists, 1995	2,231	453,928	39	Total R&D performance, 1995 (millions)	$345	$177,210	42
Doctoral engineers, 1995	267	86,738	44	Industry R&D, 1995 (millions)	$286	$130,332	39
S&E doctorates awarded, 1996	36	27,230	49	Academic R&D, 1995 (millions)	$32	$21,606	51
of which, in life sciences	39%	25%		of which, in life sciences	53%	55%	
in engineering	22%	23%		in environmental sciences	22%	6%	
in psychology	19%	13%		in engineering	14%	16%	
S&E postdoctorates, 1995 in doctorate-granting institutions	23	35,379	50	Higher education current-fund expenditures, 1995 (millions)	$641	$182,602	43
S&E graduate students, 1995 in doctorate-granting institutions	900	436,328	50	Number of SBIR awards, 1990-1996	71	26,399	34
				Patents issued to state residents, 1996	98	61,099	45
Population, 1996 (000s)	1,243	269,067	40	Gross state product, 1994 (billions)	$26.1	$6,876.0	44
Civilian labor force, 1996 (000s)	669	135,528	40	of which, agriculture	2%	2%	
				manufacturing, mining, construction	22%	23%	
Personal income per capita, 1996	$20,826	$24,231	38	transportation, communication, utilities	7%	9%	
Federal spending				wholesale and retail trade	18%	16%	
Total expenditures, 1996 (millions)	$6,808	$1,368,858	42	finance, insurance, real estate	18%	19%	
R&D obligations, 1995 (millions)	$54	$67,080	47	services	18%	20%	
				government	14%	13%	

Rankings and totals are based on data for the 50 states, D.C., and Puerto Rico.

Data on S&E postdoctorates and S&E graduate students include health fields.

Federal Obligations for Research and Development in Maine by Agency and Performer: Fiscal Year 1995

[Thousands of Dollars]

	Total	Federal intramural	All FFRDCs	Industrial firms	Universities & colleges	Other nonprofits	State & local government	State rank
Total, all agencies	54,476	4,238	0	9,089	15,841	23,310	1,998	47
Department of Agriculture	5,857	1,146	0	0	4,711	0	0	45
Department of Commerce	3,061	701	0	0	2,249	5	106	29
Department of Defense	5,771	1,087	0	2,352	2,192	140	0	47
Department of Energy	5,898	0	0	3,778	870	1,250	0	37
Dept. of Health & Human Services	22,836	0	0	1,577	914	19,206	1,139	42
Department of the Interior	1,744	1,304	0	8	359	0	73	48
Department of Transportation	528	0	0	53	0	0	475	50
Environmental Protection Agency	585	0	0	300	285	0	0	41
Nat'l Aeronautics & Space Admin.	2,118	0	0	885	294	734	205	42
National Science Foundation	6,078	0	0	136	3,967	1,975	0	45
State rank	47	52	na	43	49	17	35	

Federal R&D obligations are as reported by funding agencies.

FFRDC = federally funded research and development center

SBIR = small business innovation research

na = not applicable

Prepared by the National Science Foundation/Division of Science Resources Studies. Data compiled from numerous sources.

MARYLAND

Science and Engineering Profile

	MD	U.S.	Rank
Doctoral scientists, 1995	19,153	453,928	6
Doctoral engineers, 1995	2,655	86,738	11
S&E doctorates awarded, 1996	672	27,230	12
of which, in life sciences	29%	25%	
in engineering	22%	23%	
in social sciences	17%	15%	
S&E postdoctorates, 1995 in doctorate-granting institutions	1,049	35,379	10
S&E graduate students, 1995 in doctorate-granting institutions	9,015	436,328	16
Population, 1996 (000s)	5,072	269,067	19
Civilian labor force, 1996 (000s)	2,786	135,528	18
Personal income per capita, 1996	$27,221	$24,231	7
Federal spending			
Total expenditures, 1996 (millions)	$37,041	$1,368,858	11
R&D obligations, 1995 (millions)	$7,039	$67,080	2

	MD	U.S.	Rank
Total R&D performance, 1995 (millions)	$6,519	$177,210	9
Industry R&D, 1995 (millions)	$1,075	$130,332	24
Academic R&D, 1995 (millions)	$1,160	$21,606	4
of which, in life sciences	40%	55%	
in engineering	24%	16%	
in physical sciences	15%	10%	
Higher education current-fund expenditures, 1995 (millions)	$3,795	$182,602	15
Number of SBIR awards, 1990-1996	1,318	26,399	4
Patents issued to state residents, 1996	1,101	61,099	18
Gross state product, 1994 (billions)	$132.7	$6,876.0	16
of which, agriculture	1%	2%	
manufacturing, mining, construction	14%	23%	
transportation, communication, utilities	8%	9%	
wholesale and retail trade	15%	16%	
finance, insurance, real estate	22%	19%	
services	22%	20%	
government	18%	13%	

Rankings and totals are based on data for the 50 states, D.C., and Puerto Rico.

Data on S&E postdoctorates and S&E graduate students include health fields.

Federal Obligations for Research and Development in Maryland by Agency and Performer: Fiscal Year 1995

[Thousands of Dollars]

	Total	Federal intramural	All FFRDCs	Industrial firms	Universities & colleges	Other nonprofits	State & local government	State rank
Total, all agencies	7,039,183	4,158,824	143,265	1,956,488	654,050	123,499	3,057	2
Department of Agriculture	135,649	123,410	0	0	12,141	85	13	2
Department of Commerce	369,997	333,301	0	29,081	7,165	327	123	1
Department of Defense	2,914,007	1,716,240	1,429	953,869	217,720	24,749	0	3
Department of Energy	60,671	26,777	0	15,379	16,594	1,921	0	17
Dept. of Health & Human Services	2,239,094	1,583,184	141,636	197,376	314,004	2,192	702	1
Department of the Interior	16,863	16,377	0	172	312	2	0	5
Department of Transportation	52,528	7,153	0	41,199	2,304	0	1,872	5
Environmental Protection Agency	6,562	0	0	3,497	2,515	550	0	18
Nat'l Aeronautics & Space Admin.	1,189,026	348,891	200	704,674	45,024	89,890	347	3
National Science Foundation	54,786	3,491	0	11,241	36,271	3,783	0	12
State rank	2	1	9	4	5	7	26	

Federal R&D obligations are as reported by funding agencies.

FFRDC = federally funded research and development center

SBIR = small business innovation research

na = not applicable

Prepared by the National Science Foundation/Division of Science Resources Studies. Data compiled from numerous sources.

MASSACHUSETTS

Science and Engineering Profile

	MA	U.S.	Rank
Doctoral scientists, 1995	20,731	453,928	5
Doctoral engineers, 1995	3,583	86,738	7
S&E doctorates awarded, 1996	1,575	27,230	4
of which, in engineering	24%	23%	
in life sciences	24%	25%	
in social sciences	18%	15%	
S&E postdoctorates, 1995 in doctorate-granting institutions	3,185	35,379	2
S&E graduate students, 1995 in doctorate-granting institutions	23,083	436,328	4
Population, 1996 (000s)	6,092	269,067	13
Civilian labor force, 1996 (000s)	3,189	135,528	13
Personal income per capita, 1996	$29,439	$24,231	4
Federal spending			
Total expenditures, 1996 (millions)	$36,457	$1,368,858	12
R&D obligations, 1995 (millions)	$3,340	$67,080	6

	MA	U.S.	Rank
Total R&D performance, 1995 (millions)	$9,969	$177,210	4
Industry R&D, 1995 (millions)	$7,416	$130,332	5
Academic R&D, 1995 (millions)	$1,147	$21,606	5
of which, in life sciences	40%	55%	
in engineering	20%	16%	
in physical sciences	16%	10%	
Higher education current-fund expenditures, 1995 (millions)	$7,974	$182,602	6
Number of SBIR awards, 1990-1996	4,177	26,399	2
Patents issued to state residents, 1996	2,452	61,099	9
Gross state product, 1994 (billions)	$186.2	$6,876.0	10
of which, agriculture	1%	2%	
manufacturing, mining, construction	20%	23%	
transportation, communication, utilities	7%	9%	
wholesale and retail trade	15%	16%	
finance, insurance, real estate	23%	19%	
services	25%	20%	
government	9%	13%	

Rankings and totals are based on data for the 50 states, D.C., and Puerto Rico.

Data on S&E postdoctorates and S&E graduate students include health fields.

Federal Obligations for Research and Development in Massachusetts by Agency and Performer: Fiscal Year 1995

[Thousands of Dollars]

	Total	Federal intramural	All FFRDCs	Industrial firms	Universities & colleges	Other nonprofits	State & local government	State rank
Total, all agencies	3,339,532	315,749	319,172	1,337,516	767,355	587,363	12,377	6
Department of Agriculture	21,574	15,529	0	160	5,364	521	0	21
Department of Commerce	57,772	26,479	0	27,207	3,682	49	355	5
Department of Defense	1,817,242	193,925	305,262	1,158,637	109,143	50,275	0	5
Department of Energy	99,989	20	0	7,177	86,485	6,307	0	13
Dept. of Health & Human Services	933,229	27,841	2,805	83,281	343,448	468,178	7,676	3
Department of the Interior	6,397	5,249	370	81	697	0	0	19
Department of Transportation	63,704	41,926	7,729	7,954	1,909	0	4,186	3
Environmental Protection Agency	25,613	0	0	15,532	8,030	1,891	160	5
Nat'l Aeronautics & Space Admin.	146,346	3,593	2,892	28,584	58,896	52,381	0	10
National Science Foundation	167,666	1,187	114	8,903	149,701	7,761	0	3
State rank	6	12	4	7	3	1	3	

Federal R&D obligations are as reported by funding agencies.

FFRDC = federally funded research and development center

SBIR = small business innovation research

na = not applicable

Prepared by the National Science Foundation/Division of Science Resources Studies. Data compiled from numerous sources.

MICHIGAN

Science and Engineering Profile

	MI	U.S.	Rank		MI	U.S.	Rank
Doctoral scientists, 1995	12,724	453,928	12	Total R&D performance, 1995 (millions)	$13,275	$177,210	2
Doctoral engineers, 1995	3,306	86,738	8	Industry R&D, 1995 (millions)	$12,388	$130,332	2
S&E doctorates awarded, 1996	1,073	27,230	8	Academic R&D, 1995 (millions)	$755	$21,606	8
of which, in engineering	27%	23%		of which, in life sciences	55%	55%	
in life sciences	23%	25%		in engineering	19%	16%	
in social sciences	15%	15%		in social sciences	8%	5%	
S&E postdoctorates, 1995 in doctorate-granting institutions	1,198	35,379	7	Higher education current-fund expenditures, 1995 (millions)	$6,252	$182,602	8
S&E graduate students, 1995 in doctorate-granting institutions	16,913	436,328	8	Number of SBIR awards, 1990-1996	474	26,399	15
				Patents issued to state residents, 1996	3,179	61,099	4
Population, 1996 (000s)	9,594	269,067	8	Gross state product, 1994 (billions)	$240.4	$6,876.0	9
Civilian labor force, 1996 (000s)	4,807	135,528	8	of which, agriculture	1%	2%	
				manufacturing, mining, construction	34%	23%	
Personal income per capita, 1996	$24,810	$24,231	17	transportation, communication, utilities	7%	9%	
				wholesale and retail trade	15%	16%	
Federal spending				finance, insurance, real estate	15%	19%	
Total expenditures, 1996 (millions)	$39,287	$1,368,858	9	services	18%	20%	
R&D obligations, 1995 (millions)	$688	$67,080	22	government	11%	13%	

Rankings and totals are based on data for the 50 states, D.C., and Puerto Rico.

Data on S&E postdoctorates and S&E graduate students include health fields.

Federal Obligations for Research and Development in Michigan by Agency and Performer: Fiscal Year 1995

[Thousands of Dollars]

	Total	Federal intramural	All FFRDCs	Industrial firms	Universities & colleges	Other nonprofits	State & local government	State rank
Total, all agencies	688,376	82,008	0	155,055	397,365	49,778	4,170	22
Department of Agriculture	20,205	5,836	0	158	14,211	0	0	25
Department of Commerce	47,728	6,483	0	38,426	1,086	1,604	129	6
Department of Defense	219,678	63,185	0	93,743	33,624	29,126	0	24
Department of Energy	13,779	0	0	265	12,477	1,037	0	30
Dept. of Health & Human Services	254,994	0	0	7,270	238,050	7,656	2,018	13
Department of the Interior	6,792	6,487	0	0	305	0	0	18
Department of Transportation	9,416	17	0	3,061	4,315	0	2,023	16
Environmental Protection Agency	21,217	0	0	6,722	12,267	2,228	0	7
Nat'l Aeronautics & Space Admin.	22,263	0	0	3,438	13,156	5,669	0	23
National Science Foundation	72,304	0	0	1,972	67,874	2,458	0	9
State rank	22	24	na	24	9	12	16	

Federal R&D obligations are as reported by funding agencies.

FFRDC = federally funded research and development center

SBIR = small business innovation research

na = not applicable

Prepared by the National Science Foundation/Division of Science Resources Studies. Data compiled from numerous sources.

MINNESOTA

Science and Engineering Profile

	MN	U.S.	Rank
Doctoral scientists, 1995	8,324	453,928	18
Doctoral engineers, 1995	1,262	86,738	22
S&E doctorates awarded, 1996	505	27,230	18
of which, in life sciences	31%	25%	
in engineering	23%	23%	
in social sciences	14%	15%	
S&E postdoctorates, 1995 in doctorate-granting institutions	705	35,379	15
S&E graduate students, 1995 in doctorate-granting institutions	5,823	436,328	26
Population, 1996 (000s)	4,658	269,067	20
Civilian labor force, 1996 (000s)	2,609	135,528	20
Personal income per capita, 1996	$25,580	$24,231	10
Federal spending			
Total expenditures, 1996 (millions)	$18,859	$1,368,858	26
R&D obligations, 1995 (millions)	$571	$67,080	24

	MN	U.S.	Rank
Total R&D performance, 1995 (millions)	$3,087	$177,210	19
Industry R&D, 1995 (millions)	$2,636	$130,332	14
Academic R&D, 1995 (millions)	$337	$21,606	22
of which, in life sciences	71%	55%	
in engineering	10%	16%	
in math & computer sciences	6%	4%	
Higher education current-fund expenditures, 1995 (millions)	$3,484	$182,602	18
Number of SBIR awards, 1990-1996	416	26,399	18
Patents issued to state residents, 1996	1,771	61,099	11
Gross state product, 1994 (billions)	$124.6	$6,876.0	20
of which, agriculture	3%	2%	
manufacturing, mining, construction	25%	23%	
transportation, communication, utilities	8%	9%	
wholesale and retail trade	17%	16%	
finance, insurance, real estate	18%	19%	
services	19%	20%	
government	11%	13%	

Rankings and totals are based on data for the 50 states, D.C., and Puerto Rico.

Data on S&E postdoctorates and S&E graduate students include health fields.

Federal Obligations for Research and Development in Minnesota by Agency and Performer: Fiscal Year 1995

[Thousands of Dollars]

	Total	Federal intramural	All FFRDCs	Industrial firms	Universities & colleges	Other nonprofits	State & local government	State rank
Total, all agencies	571,128	30,139	0	254,153	195,912	84,775	6,149	24
Department of Agriculture	23,826	13,815	0	0	9,980	6	25	20
Department of Commerce	15,748	341	0	14,438	969	0	0	18
Department of Defense	255,331	1,197	0	220,840	11,207	22,087	0	21
Department of Energy	5,736	0	0	0	5,476	260	0	38
Dept. of Health & Human Services	198,156	0	0	4,625	128,051	61,831	3,649	17
Department of the Interior	4,101	3,870	0	5	199	0	27	29
Department of Transportation	6,338	0	0	3,775	240	0	2,323	23
Environmental Protection Agency	18,028	10,916	0	5,102	1,885	0	125	11
Nat'l Aeronautics & Space Admin.	7,422	0	0	3,981	3,024	417	0	33
National Science Foundation	36,442	0	0	1,387	34,881	174	0	20
State rank	24	40	na	20	20	9	6	

Federal R&D obligations are as reported by funding agencies.

FFRDC = federally funded research and development center

SBIR = small business innovation research

na = not applicable

Prepared by the National Science Foundation/Division of Science Resources Studies. Data compiled from numerous sources.

MISSISSIPPI

Science and Engineering Profile

	MS	U.S.	Rank
Doctoral scientists, 1995	2,585	453,928	37
Doctoral engineers, 1995	508	86,738	35
S&E doctorates awarded, 1996	151	27,230	37
of which, in life sciences	34%	25%	
in psychology	22%	13%	
in physical sciences	19%	14%	
S&E postdoctorates, 1995 in doctorate-granting institutions	89	35,379	38
S&E graduate students, 1995 in doctorate-granting institutions	3,176	436,328	35
Population, 1996 (000s)	2,716	269,067	32
Civilian labor force, 1996 (000s)	1,262	135,528	33
Personal income per capita, 1996	$17,471	$24,231	51
Federal spending			
Total expenditures, 1996 (millions)	$15,184	$1,368,858	30
R&D obligations, 1995 (millions)	$213	$67,080	35

	MS	U.S.	Rank
Total R&D performance, 1995 (millions)	$315	$177,210	45
Industry R&D, 1995 (millions)	$66	$130,332	44
Academic R&D, 1995 (millions)	$113	$21,606	36
of which, in life sciences	54%	55%	
in engineering	20%	16%	
in physical sciences	12%	10%	
Higher education current-fund expenditures, 1995 (millions)	$1,489	$182,602	34
Number of SBIR awards, 1990-1996	27	26,399	44
Patents issued to state residents, 1996	137	61,099	41
Gross state product, 1994 (billions)	$50.6	$6,876.0	32
of which, agriculture	3%	2%	
manufacturing, mining, construction	28%	23%	
transportation, communication, utilities	12%	9%	
wholesale and retail trade	16%	16%	
finance, insurance, real estate	11%	19%	
services	15%	20%	
government	15%	13%	

Rankings and totals are based on data for the 50 states, D.C., and Puerto Rico.

Data on S&E postdoctorates and S&E graduate students include health fields.

Federal Obligations for Research and Development in Mississippi by Agency and Performer: Fiscal Year 1995

[Thousands of Dollars]

	Total	Federal intramural	All FFRDCs	Industrial firms	Universities & colleges	Other nonprofits	State & local government	State rank
Total, all agencies	212,739	132,616	0	26,162	49,283	3,305	1,373	35
Department of Agriculture	50,877	36,399	0	0	13,740	738	0	6
Department of Commerce	7,552	6,451	0	0	1,066	0	35	26
Department of Defense	97,879	68,000	0	18,264	11,615	0	0	28
Department of Energy	3,643	0	0	258	3,385	0	0	44
Dept. of Health & Human Services	12,032	0	0	100	11,309	232	391	45
Department of the Interior	2,520	2,442	0	0	78	0	0	43
Department of Transportation	2,091	1,103	0	0	41	0	947	34
Environmental Protection Agency	1,195	0	0	0	758	437	0	37
Nat'l Aeronautics & Space Admin.	29,155	18,218	0	7,540	1,499	1,898	0	20
National Science Foundation	5,795	3	0	0	5,792	0	0	46
State rank	35	21	na	37	38	36	43	

Federal R&D obligations are as reported by funding agencies.

FFRDC = federally funded research and development center

SBIR = small business innovation research

na = not applicable

Prepared by the National Science Foundation/Division of Science Resources Studies. Data compiled from numerous sources.

MISSOURI

Science and Engineering Profile

	MO	U.S.	Rank
Doctoral scientists, 1995	7,996	453,928	19
Doctoral engineers, 1995	1,288	86,738	21
S&E doctorates awarded, 1996	446	27,230	22
of which, in engineering	25%	23%	
in life sciences	23%	25%	
in social sciences	15%	15%	
S&E postdoctorates, 1995 in doctorate-granting institutions	800	35,379	14
S&E graduate students, 1995 in doctorate-granting institutions	7,116	436,328	21
Population, 1996 (000s)	5,359	269,067	16
Civilian labor force, 1996 (000s)	2,898	135,528	16
Personal income per capita, 1996	$22,864	$24,231	26
Federal spending			
Total expenditures, 1996 (millions)	$35,095	$1,368,858	13
R&D obligations, 1995 (millions)	$1,613	$67,080	14

	MO	U.S.	Rank
Total R&D performance, 1995 (millions)	$2,499	$177,210	21
Industry R&D, 1995 (millions)	$2,028	$130,332	16
Academic R&D, 1995 (millions)	$397	$21,606	17
of which, in life sciences	77%	55%	
in engineering	8%	16%	
in physical sciences	6%	10%	
Higher education current-fund expenditures, 1995 (millions)	$3,734	$182,602	17
Number of SBIR awards, 1990-1996	107	26,399	28
Patents issued to state residents, 1996	656	61,099	23
Gross state product, 1994 (billions)	$128.2	$6,876.0	17
of which, agriculture	2%	2%	
manufacturing, mining, construction	26%	23%	
transportation, communication, utilities	11%	9%	
wholesale and retail trade	17%	16%	
finance, insurance, real estate	15%	19%	
services	19%	20%	
government	11%	13%	

Rankings and totals are based on data for the 50 states, D.C., and Puerto Rico.

Data on S&E postdoctorates and S&E graduate students include health fields.

Federal Obligations for Research and Development in Missouri by Agency and Performer: Fiscal Year 1995

[Thousands of Dollars]

	Total	Federal intramural	All FFRDCs	Industrial firms	Universities & colleges	Other nonprofits	State & local government	State rank
Total, all agencies	1,613,322	55,445	0	1,303,721	232,766	17,723	3,667	14
Department of Agriculture	19,702	7,993	0	80	11,629	0	0	26
Department of Commerce	164	48	0	0	116	0	0	45
Department of Defense	1,342,017	37,942	0	1,295,299	8,776	0	0	9
Department of Energy	5,234	10	0	0	4,889	335	0	42
Dept. of Health & Human Services	203,994	0	0	380	185,524	16,240	1,850	15
Department of the Interior	10,059	9,371	0	153	475	0	60	14
Department of Transportation	2,063	0	0	306	0	0	1,757	35
Environmental Protection Agency	1,434	0	0	801	439	194	0	31
Nat'l Aeronautics & Space Admin.	11,873	0	0	6,329	5,544	0	0	26
National Science Foundation	16,782	81	0	373	15,374	954	0	27
State rank	14	31	na	8	15	20	21	

Federal R&D obligations are as reported by funding agencies.

FFRDC = federally funded research and development center

SBIR = small business innovation research

na = not applicable

Prepared by the National Science Foundation/Division of Science Resources Studies. Data compiled from numerous sources.

MONTANA

Science and Engineering Profile

	MT	U.S.	Rank
Doctoral scientists, 1995	1,765	453,928	44
Doctoral engineers, 1995	140	86,738	50
S&E doctorates awarded, 1996	48	27,230	46
of which, in life sciences	44%	25%	
in physical sciences	25%	14%	
in math & computer sciences	13%	8%	
S&E postdoctorates, 1995 in doctorate-granting institutions	47	35,379	44
S&E graduate students, 1995 in doctorate-granting institutions	1,303	436,328	45
Population, 1996 (000s)	879	269,067	45
Civilian labor force, 1996 (000s)	447	135,528	45
Personal income per capita, 1996	$19,047	$24,231	47
Federal spending			
Total expenditures, 1996 (millions)	$4,973	$1,368,858	46
R&D obligations, 1995 (millions)	$65	$67,080	45

	MT	U.S.	Rank
Total R&D performance, 1995 (millions)	$119	$177,210	48
Industry R&D, 1995 (millions)	$17	$130,332	49
Academic R&D, 1995 (millions)	$67	$21,606	43
of which, in life sciences	67%	55%	
in physical sciences	10%	10%	
in engineering	9%	16%	
Higher education current-fund expenditures, 1995 (millions)	$427	$182,602	49
Number of SBIR awards, 1990-1996	47	26,399	39
Patents issued to state residents, 1996	110	61,099	44
Gross state product, 1994 (billions)	$16.9	$6,876.0	49
of which, agriculture	6%	2%	
manufacturing, mining, construction	17%	23%	
transportation, communication, utilities	13%	9%	
wholesale and retail trade	16%	16%	
finance, insurance, real estate	13%	19%	
services	18%	20%	
government	16%	13%	

Rankings and totals are based on data for the 50 states, D.C., and Puerto Rico.

Data on S&E postdoctorates and S&E graduate students include health fields.

Federal Obligations for Research and Development in Montana by Agency and Performer: Fiscal Year 1995

[Thousands of Dollars]

	Total	Federal intramural	All FFRDCs	Industrial firms	Universities & colleges	Other nonprofits	State & local government	State rank
Total, all agencies	64,821	33,553	0	6,346	21,239	1,677	2,006	45
Department of Agriculture	15,367	9,792	0	60	5,376	139	0	33
Department of Commerce	2,084	0	0	2,084	0	0	0	34
Department of Defense	9,383	6,092	0	1,182	2,109	0	0	46
Department of Energy	4,847	195	0	2,264	1,288	285	815	43
Dept. of Health & Human Services	17,503	12,400	0	50	3,667	1,205	181	44
Department of the Interior	5,541	5,074	0	80	387	0	0	25
Department of Transportation	1,010	0	0	0	0	0	1,010	46
Environmental Protection Agency	205	0	0	0	205	0	0	47
Nat'l Aeronautics & Space Admin.	2,255	0	0	561	1,694	0	0	41
National Science Foundation	6,626	0	0	65	6,513	48	0	44
State rank	45	38	na	45	47	42	34	

Federal R&D obligations are as reported by funding agencies.

FFRDC = federally funded research and development center

SBIR = small business innovation research

na = not applicable

Prepared by the National Science Foundation/Division of Science Resources Studies. Data compiled from numerous sources.

NEBRASKA

Science and Engineering Profile

	NE	U.S.	Rank
Doctoral scientists, 1995	2,587	453,928	36
Doctoral engineers, 1995	327	86,738	42
S&E doctorates awarded, 1996	170	27,230	36
of which, in life sciences	43%	25%	
in psychology	18%	13%	
in social sciences	13%	15%	
S&E postdoctorates, 1995 in doctorate-granting institutions	160	35,379	33
S&E graduate students, 1995 in doctorate-granting institutions	3,044	436,328	37
Population, 1996 (000s)	1,652	269,067	38
Civilian labor force, 1996 (000s)	913	135,528	36
Personal income per capita, 1996	$23,047	$24,231	25
Federal spending			
Total expenditures, 1996 (millions)	$7,595	$1,368,858	40
R&D obligations, 1995 (millions)	$87	$67,080	43

	NE	U.S.	Rank
Total R&D performance, 1995 (millions)	$336	$177,210	43
Industry R&D, 1995 (millions)	$150	$130,332	43
Academic R&D, 1995 (millions)	$157	$21,606	34
of which, in life sciences	76%	55%	
in engineering	12%	16%	
in physical sciences	5%	10%	
Higher education current-fund expenditures, 1995 (millions)	$1,397	$182,602	35
Number of SBIR awards, 1990-1996	38	26,399	42
Patents issued to state residents, 1996	167	61,099	40
Gross state product, 1994 (billions)	$41.4	$6,876.0	37
of which, agriculture	8%	2%	
manufacturing, mining, construction	19%	23%	
transportation, communication, utilities	11%	9%	
wholesale and retail trade	16%	16%	
finance, insurance, real estate	14%	19%	
services	16%	20%	
government	15%	13%	

Rankings and totals are based on data for the 50 states, D.C., and Puerto Rico.

Data on S&E postdoctorates and S&E graduate students include health fields.

Federal Obligations for Research and Development in Nebraska by Agency and Performer: Fiscal Year 1995

[Thousands of Dollars]

	Total	Federal intramural	All FFRDCs	Industrial firms	Universities & colleges	Other nonprofits	State & local government	State rank
Total, all agencies	86,762	23,132	0	4,011	52,549	5,754	1,316	43
Department of Agriculture	25,797	17,206	0	0	8,491	100	0	18
Department of Commerce	30	0	0	0	30	0	0	50
Department of Defense	10,206	2,692	0	2,676	4,334	504	0	45
Department of Energy	6,217	0	0	210	6,007	0	0	34
Dept. of Health & Human Services	27,554	0	0	932	20,950	5,150	522	39
Department of the Interior	3,809	3,234	0	0	527	0	48	33
Department of Transportation	746	0	0	0	0	0	746	47
Environmental Protection Agency	79	0	0	0	79	0	0	49
Nat'l Aeronautics & Space Admin.	1,919	0	0	149	1,770	0	0	44
National Science Foundation	10,405	0	0	44	10,361	0	0	35
State rank	43	43	na	47	36	34	44	

Federal R&D obligations are as reported by funding agencies.

FFRDC = federally funded research and development center

SBIR = small business innovation research

na = not applicable

Prepared by the National Science Foundation/Division of Science Resources Studies. Data compiled from numerous sources.

NEVADA

Science and Engineering Profile

	NV	U.S.	Rank
Doctoral scientists, 1995	1,423	453,928	46
Doctoral engineers, 1995	313	86,738	43
S&E doctorates awarded, 1996	48	27,230	46
of which, in life sciences	25%	25%	
in environmental sciences	19%	3%	
in engineering	17%	23%	
S&E postdoctorates, 1995 in doctorate-granting institutions	54	35,379	43
S&E graduate students, 1995 in doctorate-granting institutions	1,681	436,328	43
Population, 1996 (000s)	1,603	269,067	39
Civilian labor force, 1996 (000s)	844	135,528	37
Personal income per capita, 1996	$25,451	$24,231	11
Federal spending			
Total expenditures, 1996 (millions)	$7,428	$1,368,858	41
R&D obligations, 1995 (millions)	$373	$67,080	28

	NV	U.S.	Rank
Total R&D performance, 1995 (millions)	$445	$177,210	40
Industry R&D, 1995 (millions)	$322	$130,332	37
Academic R&D, 1995 (millions)	$87	$21,606	40
of which, in environmental sciences	30%	6%	
in life sciences	29%	55%	
in engineering	10%	16%	
Higher education current-fund expenditures, 1995 (millions)	$456	$182,602	48
Number of SBIR awards, 1990-1996	54	26,399	37
Patents issued to state residents, 1996	195	61,099	39
Gross state product, 1994 (billions)	$44.0	$6,876.0	35
of which, agriculture	1%	2%	
manufacturing, mining, construction	15%	23%	
transportation, communication, utilities	8%	9%	
wholesale and retail trade	14%	16%	
finance, insurance, real estate	18%	19%	
services	34%	20%	
government	11%	13%	

Rankings and totals are based on data for the 50 states, D.C., and Puerto Rico.

Data on S&E postdoctorates and S&E graduate students include health fields.

Federal Obligations for Research and Development in Nevada by Agency and Performer: Fiscal Year 1995

[Thousands of Dollars]

	Total	Federal intramural	All FFRDCs	Industrial firms	Universities & colleges	Other nonprofits	State & local government	State rank
Total, all agencies	372,570	34,669	0	313,505	22,107	1,457	832	28
Department of Agriculture	3,160	880	0	0	2,244	36	0	51
Department of Commerce	728	0	0	16	712	0	0	39
Department of Defense	19,611	12,430	0	6,678	503	0	0	39
Department of Energy	298,870	10	0	295,590	3,195	75	0	8
Dept. of Health & Human Services	6,245	0	0	0	4,656	1,346	243	46
Department of the Interior	11,738	10,420	0	0	1,318	0	0	12
Department of Transportation	10,106	0	0	9,268	249	0	589	15
Environmental Protection Agency	12,583	10,894	0	753	936	0	0	13
Nat'l Aeronautics & Space Admin.	1,949	35	0	953	961	0	0	43
National Science Foundation	7,580	0	0	247	7,333	0	0	43
State rank	28	36	na	19	45	43	48	

Federal R&D obligations are as reported by funding agencies.

FFRDC = federally funded research and development center

SBIR = small business innovation research

na = not applicable

Prepared by the National Science Foundation/Division of Science Resources Studies. Data compiled from numerous sources.

NEW HAMPSHIRE

Science and Engineering Profile

	NH	U.S.	Rank
Doctoral scientists, 1995	1,848	453,928	42
Doctoral engineers, 1995	420	86,738	38
S&E doctorates awarded, 1996	83	27,230	40
of which, in life sciences	34%	25%	
in physical sciences	28%	14%	
in engineering	17%	23%	
S&E postdoctorates, 1995 in doctorate-granting institutions	106	35,379	36
S&E graduate students, 1995 in doctorate-granting institutions	1,140	436,328	47
Population, 1996 (000s)	1,162	269,067	43
Civilian labor force, 1996 (000s)	624	135,528	41
Personal income per capita, 1996	$26,520	$24,231	9
Federal spending			
Total expenditures, 1996 (millions)	$5,001	$1,368,858	45
R&D obligations, 1995 (millions)	$214	$67,080	34

	NH	U.S.	Rank
Total R&D performance, 1995 (millions)	$598	$177,210	35
Industry R&D, 1995 (millions)	$472	$130,332	35
Academic R&D, 1995 (millions)	$93	$21,606	38
of which, in life sciences	52%	55%	
in environmental sciences	24%	6%	
in engineering	9%	16%	
Higher education current-fund expenditures, 1995 (millions)	$879	$182,602	40
Number of SBIR awards, 1990-1996	300	26,399	22
Patents issued to state residents, 1996	419	61,099	30
Gross state product, 1994 (billions)	$29.4	$6,876.0	42
of which, agriculture	1%	2%	
manufacturing, mining, construction	24%	23%	
transportation, communication, utilities	8%	9%	
wholesale and retail trade	16%	16%	
finance, insurance, real estate	22%	19%	
services	19%	20%	
government	10%	13%	

Rankings and totals are based on data for the 50 states, D.C., and Puerto Rico.

Data on S&E postdoctorates and S&E graduate students include health fields.

Federal Obligations for Research and Development in New Hampshire by Agency and Performer: Fiscal Year 1995

[Thousands of Dollars]

	Total	Federal intramural	All FFRDCs	Industrial firms	Universities & colleges	Other nonprofits	State & local government	State rank
Total, all agencies	213,647	30,902	0	121,212	59,179	1,722	632	34
Department of Agriculture	4,587	2,326	0	10	2,248	0	3	49
Department of Commerce	15,858	0	0	14,741	1,077	0	40	17
Department of Defense	130,311	24,105	0	100,521	4,600	1,085	0	27
Department of Energy	1,335	0	0	0	1,281	54	0	47
Dept. of Health & Human Services	35,525	0	0	2,427	32,427	558	113	36
Department of the Interior	1,300	1,087	0	0	213	0	0	50
Department of Transportation	2,594	1,741	0	377	25	0	451	31
Environmental Protection Agency	500	0	0	0	500	0	0	43
Nat'l Aeronautics & Space Admin.	12,422	132	0	2,908	9,332	25	25	25
National Science Foundation	9,215	1,511	0	228	7,476	0	0	38
State rank	34	39	na	26	35	41	50	

Federal R&D obligations are as reported by funding agencies.

FFRDC = federally funded research and development center

SBIR = small business innovation research

na = not applicable

Prepared by the National Science Foundation/Division of Science Resources Studies. Data compiled from numerous sources.

NEW JERSEY

Science and Engineering Profile

	NJ	U.S.	Rank
Doctoral scientists, 1995	17,171	453,928	8
Doctoral engineers, 1995	4,117	86,738	4
S&E doctorates awarded, 1996	659	27,230	13
of which, in engineering	27%	23%	
in life sciences	23%	25%	
in physical sciences	16%	14%	
S&E postdoctorates, 1995 in doctorate-granting institutions	661	35,379	17
S&E graduate students, 1995 in doctorate-granting institutions	10,614	436,328	11
Population, 1996 (000s)	7,988	269,067	9
Civilian labor force, 1996 (000s)	4,124	135,528	9
Personal income per capita, 1996	$31,053	$24,231	3
Federal spending			
Total expenditures, 1996 (millions)	$38,347	$1,368,858	10
R&D obligations, 1995 (millions)	$1,326	$67,080	15

	NJ	U.S.	Rank
Total R&D performance, 1995 (millions)	$9,128	$177,210	5
Industry R&D, 1995 (millions)	$8,200	$130,332	4
Academic R&D, 1995 (millions)	$443	$21,606	16
of which, in life sciences	46%	55%	
in engineering	19%	16%	
in physical sciences	11%	10%	
Higher education current-fund expenditures, 1995 (millions)	$4,235	$182,602	13
Number of SBIR awards, 1990-1996	851	26,399	9
Patents issued to state residents, 1996	3,091	61,099	6
Gross state product, 1994 (billions)	$254.9	$6,876.0	8
of which, agriculture	1%	2%	
manufacturing, mining, construction	18%	23%	
transportation, communication, utilities	10%	9%	
wholesale and retail trade	17%	16%	
finance, insurance, real estate	22%	19%	
services	21%	20%	
government	11%	13%	

Rankings and totals are based on data for the 50 states, D.C., and Puerto Rico.
Data on S&E postdoctorates and S&E graduate students include health fields.

Federal Obligations for Research and Development in New Jersey by Agency and Performer: Fiscal Year 1995

[Thousands of Dollars]

	Total	Federal intramural	All FFRDCs	Industrial firms	Universities & colleges	Other nonprofits	State & local government	State rank
Total, all agencies	1,325,902	343,667	119,414	630,884	215,220	11,332	5,385	15
Department of Agriculture	7,235	548	0	159	6,528	0	0	41
Department of Commerce	44,822	14,582	0	26,891	3,209	21	119	7
Department of Defense	676,659	290,002	4,130	345,474	36,840	213	0	15
Department of Energy	157,547	0	115,178	18,254	23,825	290	0	11
Dept. of Health & Human Services	106,047	0	0	12,847	81,407	9,784	2,009	24
Department of the Interior	4,101	2,944	0	1,009	148	0	0	29
Department of Transportation	81,417	35,281	0	40,757	2,222	0	3,157	2
Environmental Protection Agency	8,228	0	0	313	7,700	115	100	16
Nat'l Aeronautics & Space Admin.	189,885	235	0	182,017	7,145	488	0	9
National Science Foundation	49,961	75	106	3,163	46,196	421	0	15
State rank	15	11	10	14	18	24	10	

Federal R&D obligations are as reported by funding agencies.
FFRDC = federally funded research and development center
SBIR = small business innovation research
na = not applicable

Prepared by the National Science Foundation/Division of Science Resources Studies. Data compiled from numerous sources.

NEW MEXICO

Science and Engineering Profile

	NM	U.S.	Rank
Doctoral scientists, 1995	5,596	453,928	26
Doctoral engineers, 1995	1,866	86,738	15
S&E doctorates awarded, 1996	197	27,230	33
of which, in engineering	27%	23%	
in life sciences	20%	25%	
in physical sciences	19%	14%	
S&E postdoctorates, 1995 in doctorate-granting institutions	77	35,379	41
S&E graduate students, 1995 in doctorate-granting institutions	3,548	436,328	34
Population, 1996 (000s)	1,713	269,067	37
Civilian labor force, 1996 (000s)	800	135,528	39
Personal income per capita, 1996	$18,770	$24,231	49
Federal spending			
Total expenditures, 1996 (millions)	$12,073	$1,368,858	35
R&D obligations, 1995 (millions)	$1,987	$67,080	12

	NM	U.S.	Rank
Total R&D performance, 1995 (millions)	$3,295	$177,210	15
Industry R&D, 1995 (millions)	$1,461	$130,332	20
Academic R&D, 1995 (millions)	$230	$21,606	28
of which, in engineering	56%	16%	
in life sciences	24%	55%	
in environmental sciences	6%	6%	
Higher education current-fund expenditures, 1995 (millions)	$1,321	$182,602	36
Number of SBIR awards, 1990-1996	527	26,399	14
Patents issued to state residents, 1996	225	61,099	38
Gross state product, 1994 (billions)	$37.8	$6,876.0	39
of which, agriculture	2%	2%	
manufacturing, mining, construction	25%	23%	
transportation, communication, utilities	10%	9%	
wholesale and retail trade	14%	16%	
finance, insurance, real estate	14%	19%	
services	17%	20%	
government	18%	13%	

Rankings and totals are based on data for the 50 states, D.C., and Puerto Rico.

Data on S&E postdoctorates and S&E graduate students include health fields.

Federal Obligations for Research and Development in New Mexico by Agency and Performer: Fiscal Year 1995

[Thousands of Dollars]

	Total	Federal intramural	All FFRDCs	Industrial firms	Universities & colleges	Other nonprofits	State & local government	State rank
Total, all agencies	1,987,076	481,047	1,177,991	226,496	92,493	6,218	2,831	12
Department of Agriculture	5,864	3,044	0	0	2,816	4	0	44
Department of Commerce	341	0	0	301	40	0	0	42
Department of Defense	780,776	451,841	103,573	202,439	22,405	70	448	13
Department of Energy	1,066,387	0	1,054,951	6,249	3,006	2,181	0	1
Dept. of Health & Human Services	35,773	1,402	769	1,458	28,710	2,407	1,027	35
Department of the Interior	5,219	4,770	85	72	257	0	35	28
Department of Transportation	19,876	0	16,639	1,465	451	0	1,321	8
Environmental Protection Agency	2,304	0	0	1,535	460	309	0	28
Nat'l Aeronautics & Space Admin.	56,080	19,350	812	11,806	23,906	206	0	14
National Science Foundation	14,456	640	1,162	1,171	10,442	1,041	0	29
State rank	12	9	2	21	30	31	29	

Federal R&D obligations are as reported by funding agencies.

FFRDC = federally funded research and development center

SBIR = small business innovation research

na = not applicable

Prepared by the National Science Foundation/Division of Science Resources Studies. Data compiled from numerous sources.

NEW YORK

Science and Engineering Profile

	NY	U.S.	Rank
Doctoral scientists, 1995	36,935	453,928	2
Doctoral engineers, 1995	5,425	86,738	3
S&E doctorates awarded, 1996	2,543	27,230	2
of which, in life sciences	25%	25%	
in engineering	17%	23%	
in social sciences	17%	15%	
S&E postdoctorates, 1995 in doctorate-granting institutions	2,892	35,379	3
S&E graduate students, 1995 in doctorate-granting institutions	38,875	436,328	2
Population, 1996 (000s)	18,185	269,067	3
Civilian labor force, 1996 (000s)	8,639	135,528	3
Personal income per capita, 1996	$28,782	$24,231	5
Federal spending			
Total expenditures, 1996 (millions)	$94,670	$1,368,858	2
R&D obligations, 1995 (millions)	$2,581	$67,080	8

	NY	U.S.	Rank
Total R&D performance, 1995 (millions)	$10,954	$177,210	3
Industry R&D, 1995 (millions)	$8,651	$130,332	3
Academic R&D, 1995 (millions)	$1,702	$21,606	2
of which, in life sciences	64%	55%	
in engineering	11%	16%	
in physical sciences	9%	10%	
Higher education current-fund expenditures, 1995 (millions)	$17,576	$182,602	2
Number of SBIR awards, 1990-1996	1,247	26,399	5
Patents issued to state residents, 1996	5,176	61,099	2
Gross state product, 1994 (billions)	$571.0	$6,876.0	2
of which, agriculture	0%	2%	
manufacturing, mining, construction	15%	23%	
transportation, communication, utilities	8%	9%	
wholesale and retail trade	13%	16%	
finance, insurance, real estate	29%	19%	
services	23%	20%	
government	11%	13%	

Rankings and totals are based on data for the 50 states, D.C., and Puerto Rico.

Data on S&E postdoctorates and S&E graduate students include health fields.

Federal Obligations for Research and Development in New York by Agency and Performer: Fiscal Year 1995

[Thousands of Dollars]

	Total	Federal intramural	All FFRDCs	Industrial firms	Universities & colleges	Other nonprofits	State & local government	State rank
Total, all agencies	2,581,383	117,250	203,873	947,675	1,026,807	202,749	83,029	8
Department of Agriculture	31,828	14,650	0	80	15,584	1,514	0	16
Department of Commerce	21,434	181	50	18,221	2,814	41	127	13
Department of Defense	774,006	82,646	2,688	591,309	95,184	2,179	0	14
Department of Energy	572,819	14,000	199,269	293,116	53,623	12,811	0	3
Dept. of Health & Human Services	910,325	485	0	14,433	647,377	170,992	77,038	4
Department of the Interior	5,335	4,972	0	64	274	25	0	27
Department of Transportation	15,059	0	65	5,723	2,743	1,324	5,204	11
Environmental Protection Agency	7,333	0	0	2,130	4,087	968	148	17
Nat'l Aeronautics & Space Admin.	43,481	316	353	18,658	23,120	976	58	16
National Science Foundation	199,763	0	1,448	3,941	182,001	11,919	454	2
State rank	8	23	8	11	2	3	1	

Federal R&D obligations are as reported by funding agencies.

FFRDC = federally funded research and development center

SBIR = small business innovation research

na = not applicable

Prepared by the National Science Foundation/Division of Science Resources Studies. Data compiled from numerous sources.

NORTH CAROLINA

Science and Engineering Profile

	NC	U.S.	Rank
Doctoral scientists, 1995	12,426	453,928	13
Doctoral engineers, 1995	1,540	86,738	17
S&E doctorates awarded, 1996	708	27,230	11
of which, in life sciences	37%	25%	
in engineering	19%	23%	
in physical sciences	12%	14%	
S&E postdoctorates, 1995 in doctorate-granting institutions	1,358	35,379	6
S&E graduate students, 1995 in doctorate-granting institutions	9,535	436,328	13
Population, 1996 (000s)	7,323	269,067	11
Civilian labor force, 1996 (000s)	3,796	135,528	10
Personal income per capita, 1996	$22,010	$24,231	33
Federal spending			
Total expenditures, 1996 (millions)	$32,772	$1,368,858	15
R&D obligations, 1995 (millions)	$825	$67,080	21

	NC	U.S.	Rank
Total R&D performance, 1995 (millions)	$3,191	$177,210	16
Industry R&D, 1995 (millions)	$2,226	$130,332	15
Academic R&D, 1995 (millions)	$687	$21,606	9
of which, in life sciences	71%	55%	
in engineering	10%	16%	
in social sciences	6%	5%	
Higher education current-fund expenditures, 1995 (millions)	$5,736	$182,602	9
Number of SBIR awards, 1990-1996	296	26,399	23
Patents issued to state residents, 1996	1,188	61,099	15
Gross state product, 1994 (billions)	$181.5	$6,876.0	12
of which, agriculture	2%	2%	
manufacturing, mining, construction	34%	23%	
transportation, communication, utilities	8%	9%	
wholesale and retail trade	15%	16%	
finance, insurance, real estate	13%	19%	
services	15%	20%	
government	13%	13%	

Rankings and totals are based on data for the 50 states, D.C., and Puerto Rico.

Data on S&E postdoctorates and S&E graduate students include health fields.

Federal Obligations for Research and Development in North Carolina by Agency and Performer: Fiscal Year 1995

[Thousands of Dollars]

	Total	Federal intramural	All FFRDCs	Industrial firms	Universities & colleges	Other nonprofits	State & local government	State rank
Total, all agencies	825,433	220,179	0	99,913	440,465	59,002	5,874	21
Department of Agriculture	32,586	16,903	0	80	15,574	19	10	15
Department of Commerce	18,415	5,387	0	6,796	5,680	74	478	15
Department of Defense	136,748	53,262	0	48,037	33,218	2,231	0	26
Department of Energy	13,504	844	0	50	11,296	1,314	0	31
Dept. of Health & Human Services	434,731	68,595	0	15,207	310,668	37,036	3,225	7
Department of the Interior	3,645	3,265	0	95	285	0	0	35
Department of Transportation	6,418	0	0	1,654	2,438	250	2,076	22
Environmental Protection Agency	116,207	71,885	0	24,401	8,169	11,752	0	1
Nat'l Aeronautics & Space Admin.	11,738	16	0	877	7,484	3,361	0	27
National Science Foundation	51,441	22	0	2,716	45,653	2,965	85	14
State rank	21	16	na	28	7	11	8	

Federal R&D obligations are as reported by funding agencies.

FFRDC = federally funded research and development center

SBIR = small business innovation research

na = not applicable

Prepared by the National Science Foundation/Division of Science Resources Studies. Data compiled from numerous sources.

NORTH DAKOTA

Science and Engineering Profile

	ND	U.S.	Rank
Doctoral scientists, 1995	1,341	453,928	48
Doctoral engineers, 1995	156	86,738	47
S&E doctorates awarded, 1996	54	27,230	44
of which, in life sciences	41%	25%	
in psychology	26%	13%	
in physical sciences	20%	14%	
S&E postdoctorates, 1995 in doctorate-granting institutions	42	35,379	47
S&E graduate students, 1995 in doctorate-granting institutions	966	436,328	48
Population, 1996 (000s)	644	269,067	48
Civilian labor force, 1996 (000s)	343	135,528	48
Personal income per capita, 1996	$20,710	$24,231	39
Federal spending			
Total expenditures, 1996 (millions)	$3,570	$1,368,858	49
R&D obligations, 1995 (millions)	$47	$67,080	49

	ND	U.S.	Rank
Total R&D performance, 1995 (millions)	$98	$177,210	49
Industry R&D, 1995 (millions)	$12	$130,332	51
Academic R&D, 1995 (millions)	$60	$21,606	44
of which, in life sciences	53%	55%	
in engineering	26%	16%	
in physical sciences	7%	10%	
Higher education current-fund expenditures, 1995 (millions)	$494	$182,602	47
Number of SBIR awards, 1990-1996	20	26,399	46
Patents issued to state residents, 1996	62	61,099	47
Gross state product, 1994 (billions)	$13.5	$6,876.0	51
of which, agriculture	10%	2%	
manufacturing, mining, construction	14%	23%	
transportation, communication, utilities	11%	9%	
wholesale and retail trade	19%	16%	
finance, insurance, real estate	12%	19%	
services	17%	20%	
government	16%	13%	

Rankings and totals are based on data for the 50 states, D.C., and Puerto Rico.

Data on S&E postdoctorates and S&E graduate students include health fields.

Federal Obligations for Research and Development in North Dakota by Agency and Performer: Fiscal Year 1995

[Thousands of Dollars]

	Total	Federal intramural	All FFRDCs	Industrial firms	Universities & colleges	Other nonprofits	State & local government	State rank
Total, all agencies	47,313	25,042	0	539	20,054	947	731	49
Department of Agriculture	25,321	19,372	0	80	5,869	0	0	19
Department of Commerce	289	0	0	9	280	0	0	43
Department of Defense	1,355	319	0	161	875	0	0	50
Department of Energy	5,453	0	0	0	5,453	0	0	40
Dept. of Health & Human Services	2,947	0	0	0	2,147	660	140	48
Department of the Interior	5,445	5,351	0	16	78	0	0	26
Department of Transportation	1,145	0	0	7	260	287	591	45
Environmental Protection Agency	1,318	0	0	220	1,098	0	0	33
Nat'l Aeronautics & Space Admin.	584	0	0	46	538	0	0	51
National Science Foundation	3,456	0	0	0	3,456	0	0	51
State rank	49	42	na	50	48	47	49	

Federal R&D obligations are as reported by funding agencies.

FFRDC = federally funded research and development center

SBIR = small business innovation research

na = not applicable

Prepared by the National Science Foundation/Division of Science Resources Studies. Data compiled from numerous sources.

OHIO

Science and Engineering Profile

	OH	U.S.	Rank
Doctoral scientists, 1995	15,710	453,928	9
Doctoral engineers, 1995	3,950	86,738	5
S&E doctorates awarded, 1996	1,094	27,230	7
of which, in engineering	28%	23%	
in life sciences	22%	25%	
in physical sciences	17%	14%	
S&E postdoctorates, 1995 in doctorate-granting institutions	1,035	35,379	11
S&E graduate students, 1995 in doctorate-granting institutions	21,896	436,328	5
Population, 1996 (000s)	11,173	269,067	7
Civilian labor force, 1996 (000s)	5,643	135,528	7
Personal income per capita, 1996	$23,537	$24,231	22
Federal spending			
Total expenditures, 1996 (millions)	$50,145	$1,368,858	8
R&D obligations, 1995 (millions)	$1,811	$67,080	13

	OH	U.S.	Rank
Total R&D performance, 1995 (millions)	$5,314	$177,210	10
Industry R&D, 1995 (millions)	$4,001	$130,332	11
Academic R&D, 1995 (millions)	$643	$21,606	11
of which, in life sciences	52%	55%	
in engineering	27%	16%	
in physical sciences	9%	10%	
Higher education current-fund expenditures, 1995 (millions)	$6,813	$182,602	7
Number of SBIR awards, 1990-1996	746	26,399	11
Patents issued to state residents, 1996	2,616	61,099	8
Gross state product, 1994 (billions)	$274.8	$6,876.0	7
of which, agriculture	1%	2%	
manufacturing, mining, construction	31%	23%	
transportation, communication, utilities	8%	9%	
wholesale and retail trade	16%	16%	
finance, insurance, real estate	15%	19%	
services	17%	20%	
government	11%	13%	

Rankings and totals are based on data for the 50 states, D.C., and Puerto Rico.

Data on S&E postdoctorates and S&E graduate students include health fields.

Federal Obligations for Research and Development in Ohio by Agency and Performer: Fiscal Year 1995

[Thousands of Dollars]

	Total	Federal intramural	All FFRDCs	Industrial firms	Universities & colleges	Other nonprofits	State & local government	State rank
Total, all agencies	1,811,413	599,044	0	810,049	326,720	71,914	3,686	13
Department of Agriculture	15,947	6,593	0	0	9,324	23	7	32
Department of Commerce	13,284	560	0	11,899	724	101	0	21
Department of Defense	854,591	298,948	0	492,251	56,184	7,208	0	12
Department of Energy	47,590	0	0	40,358	7,163	28	41	18
Dept. of Health & Human Services	288,112	38,723	0	6,603	189,606	52,799	381	11
Department of the Interior	3,643	2,958	0	0	685	0	0	36
Department of Transportation	21,413	7,373	0	8,439	2,104	509	2,988	7
Environmental Protection Agency	58,993	43,139	0	8,220	5,409	1,992	233	3
Nat'l Aeronautics & Space Admin.	470,914	200,750	0	241,328	19,626	9,174	36	6
National Science Foundation	36,926	0	0	951	35,895	80	0	19
State rank	13	6	na	12	11	10	20	

Federal R&D obligations are as reported by funding agencies.

FFRDC = federally funded research and development center

SBIR = small business innovation research

na = not applicable

Prepared by the National Science Foundation/Division of Science Resources Studies. Data compiled from numerous sources.

OKLAHOMA

Science and Engineering Profile

	OK	U.S.	Rank		OK	U.S.	Rank
Doctoral scientists, 1995	3,909	453,928	32	Total R&D performance, 1995 (millions)	$529	$177,210	37
Doctoral engineers, 1995	877	86,738	29	Industry R&D, 1995 (millions)	$288	$130,332	38
S&E doctorates awarded, 1996	247	27,230	31	Academic R&D, 1995 (millions)	$186	$21,606	31
of which, in engineering	27%	23%		of which, in life sciences	49%	55%	
in life sciences	26%	25%		in engineering	20%	16%	
in psychology	14%	13%		in social sciences	9%	5%	
S&E postdoctorates, 1995 in doctorate-granting institutions	172	35,379	32	Higher education current-fund expenditures, 1995 (millions)	$1,561	$182,602	33
S&E graduate students, 1995 in doctorate-granting institutions	4,616	436,328	30	Number of SBIR awards, 1990-1996	69	26,399	36
				Patents issued to state residents, 1996	481	61,099	26
Population, 1996 (000s)	3,301	269,067	28	Gross state product, 1994 (billions)	$66.2	$6,876.0	30
Civilian labor force, 1996 (000s)	1,577	135,528	30	of which, agriculture	3%	2%	
				manufacturing, mining, construction	25%	23%	
Personal income per capita, 1996	$19,350	$24,231	45	transportation, communication, utilities	11%	9%	
Federal spending				wholesale and retail trade	16%	16%	
Total expenditures, 1996 (millions)	$16,466	$1,368,858	29	finance, insurance, real estate	12%	19%	
R&D obligations, 1995 (millions)	$1,9	$67,080	39	services	16%	20%	
				government	16%	13%	

Rankings and totals are based on data for the 50 states, D.C., and Puerto Rico.
Data on S&E postdoctorates and S&E graduate students include health fields.

Federal Obligations for Research and Development in Oklahoma by Agency and Performer: Fiscal Year 1995

[Thousands of Dollars]

	Total	Federal intramural	All FFRDCs	Industrial firms	Universities & colleges	Other nonprofits	State & local government	State rank
Total, all agencies	159,395	45,104	0	55,518	47,519	9,289	1,965	39
Department of Agriculture	17,196	9,280	0	0	7,848	34	34	28
Department of Commerce	8,486	6,320	0	1,108	1,058	0	0	23
Department of Defense	33,961	11,762	0	18,874	3,325	0	0	35
Department of Energy	37,972	1,833	0	32,009	4,130	0	0	21
Dept. of Health & Human Services	27,330	0	0	516	17,123	8,924	767	40
Department of the Interior	2,868	2,628	0	0	240	0	0	39
Department of Transportation	8,856	6,737	0	723	232	0	1,164	18
Environmental Protection Agency	8,880	6,207	0	2,288	385	0	0	15
Nat'l Aeronautics & Space Admin.	1,132	337	0	0	760	35	0	47
National Science Foundation	12,714	0	0	0	12,418	296	0	32
State rank	39	33	na	31	39	26	36	

Federal R&D obligations are as reported by funding agencies.
FFRDC = federally funded research and development center.
SBIR = small business innovation research.
na = not applicable

Prepared by the National Science Foundation/Division of Science Resources Studies. Data compiled from numerous sources.

OREGON

Science and Engineering Profile

	OR	U.S.	Rank		OR	U.S.	Rank
Doctoral scientists, 1995	5,731	453,928	24	Total R&D performance, 1995 (millions)	$1,089	$177,210	30
Doctoral engineers, 1995	895	86,738	28	Industry R&D, 1995 (millions)	$741	$130,332	29
S&E doctorates awarded, 1996	300	27,230	27	Academic R&D, 1995 (millions)	$259	$21,606	27
of which, in life sciences	37%	25%		of which, in life sciences	62%	55%	
in engineering	15%	23%		in environmental sciences	13%	6%	
in physical sciences	13%	14%		in engineering	7%	16%	
S&E postdoctorates, 1995 in doctorate-granting institutions	347	35,379	26	Higher education current-fund expenditures, 1995 (millions)	$2,122	$182,602	28
S&E graduate students, 1995 in doctorate-granting institutions	4,392	436,328	31	Number of SBIR awards, 1990-1996	344	26,399	20
				Patents issued to state residents, 1996	772	61,099	22
Population, 1996 (000s)	3,204	269,067	30	Gross state product, 1994 (billions)	$74.4	$6,876.0	28
Civilian labor force, 1996 (000s)	1,721	135,528	27	of which, agriculture	3%	2%	
				manufacturing, mining, construction	25%	23%	
Personal income per capita, 1996	$22,668	$24,231	28	transportation, communication, utilities	8%	9%	
Federal spending				wholesale and retail trade	17%	16%	
Total expenditures, 1996 (millions)	$14,173	$1,368,858	31	finance, insurance, real estate	17%	19%	
R&D obligations, 1995 (millions)	$277	$67,080	32	services	18%	20%	
				government	13%	13%	

Rankings and totals are based on data for the 50 states, D.C., and Puerto Rico.

Data on S&E postdoctorates and S&E graduate students include health fields.

Federal Obligations for Research and Development in Oregon by Agency and Performer: Fiscal Year 1995

[Thousands of Dollars]

	Total	Federal intramural	All FFRDCs	Industrial firms	Universities & colleges	Other nonprofits	State & local government	State rank
Total, all agencies	277,229	55,959	0	39,176	144,181	33,120	4,793	32
Department of Agriculture	37,438	21,277	0	0	15,933	190	38	10
Department of Commerce	13,681	9,197	0	2,493	1,933	0	58	20
Department of Defense	38,889	1,466	0	21,863	15,530	30	0	32
Department of Energy	15,702	480	0	1,795	11,515	200	1,712	28
Dept. of Health & Human Services	101,921	0	0	6,879	62,181	31,559	1,302	25
Department of the Interior	13,529	13,321	0	19	189	0	0	10
Department of Transportation	2,128	0	0	0	995	0	1,133	33
Environmental Protection Agency	20,509	10,090	0	3,706	6,163	0	550	8
Nat'l Aeronautics & Space Admin.	7,874	128	0	1,677	5,470	599	0	30
National Science Foundation	25,558	0	0	744	24,272	542	0	23
State rank	32	30	na	34	26	16	14	

Federal R&D obligations are as reported by funding agencies.

FFRDC = federally funded research and development center

SBIR = small business innovation research

na = not applicable

Prepared by the National Science Foundation/Division of Science Resources Studies. Data compiled from numerous sources.

PENNSYLVANIA

Science and Engineering Profile

	PA	U.S.	Rank
Doctoral scientists, 1995	21,674	453,928	4
Doctoral engineers, 1995	3,723	86,738	6
S&E doctorates awarded, 1996	1,312	27,230	6
of which, in engineering	29%	23%	
in life sciences	20%	25%	
in social sciences	17%	15%	
S&E postdoctorates, 1995 in doctorate-granting institutions	1,985	35,379	4
S&E graduate students, 1995 in doctorate-granting institutions	20,445	436,328	7
Population, 1996 (000s)	12,056	269,067	5
Civilian labor force, 1996 (000s)	5,903	135,528	6
Personal income per capita, 1996	$24,668	$24,231	19
Federal spending			
Total expenditures, 1996 (millions)	$64,167	$1,368,858	5
R&D obligations, 1995 (millions)	$2,414	$67,080	9

	PA	U.S.	Rank
Total R&D performance, 1995 (millions)	$6,919	$177,210	8
Industry R&D, 1995 (millions)	$5,331	$130,332	8
Academic R&D, 1995 (millions)	$1,140	$21,606	6
of which, in life sciences	54%	55%	
in engineering	21%	16%	
in math & computer sciences	7%	4%	
Higher education current-fund expenditures, 1995 (millions)	$10,753	$182,602	3
Number of SBIR awards, 1990-1996	854	26,399	8
Patents issued to state residents, 1996	2,922	61,099	7
Gross state product, 1994 (billions)	$294.4	$6,876.0	6
of which, agriculture	1%	2%	
manufacturing, mining, construction	24%	23%	
transportation, communication, utilities	9%	9%	
wholesale and retail trade	15%	16%	
finance, insurance, real estate	18%	19%	
services	21%	20%	
government	11%	13%	

Rankings and totals are based on data for the 50 states, D.C., and Puerto Rico.
Data on S&E postdoctorates and S&E graduate students include health fields.

Federal Obligations for Research and Development in Pennsylvania by Agency and Performer: Fiscal Year 1995

[Thousands of Dollars]

	Total	Federal intramural	All FFRDCs	Industrial firms	Universities & colleges	Other nonprofits	State & local government	State rank
Total, all agencies	2,414,250	227,520	21,980	1,251,691	717,636	189,379	6,044	9
Department of Agriculture	39,353	29,389	0	80	9,857	20	7	8
Department of Commerce	13,774	414	0	12,592	350	370	48	19
Department of Defense	1,145,451	125,918	21,980	827,823	112,259	57,471	0	11
Department of Energy	456,708	64,744	0	358,103	26,940	6,921	0	5
Dept. of Health & Human Services	568,929	20	0	10,719	453,136	104,530	524	5
Department of the Interior	6,057	5,085	0	397	547	28	0	22
Department of Transportation	14,483	0	0	5,680	1,989	1,350	5,464	12
Environmental Protection Agency	4,910	0	0	653	3,241	1,016	0	22
Nat'l Aeronautics & Space Admin.	53,225	1,500	0	34,582	15,634	1,508	1	15
National Science Foundation	111,360	450	0	1,062	93,683	16,165	0	5
State rank	9	15	17	9	4	4	7	

Federal R&D obligations are as reported by funding agencies.
FFRDC = federally funded research and development center
SBIR = small business innovation research
na = not applicable

Prepared by the National Science Foundation/Division of Science Resources Studies. Data compiled from numerous sources.

PUERTO RICO

Science and Engineering Profile

	PR	U.S.	Rank		PR	U.S.	Rank
Doctoral scientists, 1995	867	453,928	51	Total R&D performance, 1995 (millions)	na	$177,210	na
Doctoral engineers, 1995	150	86,738	48	Industry R&D, 1995 (millions)	na	$130,332	na
S&E doctorates awarded, 1996	33	27,230	50	Academic R&D, 1995 (millions)	$53	$21,606	47
of which, in psychology	76%	13%		of which, in life sciences	75%	55%	
in physical sciences	9%	14%		in engineering	6%	16%	
in environmental sciences	9%	3%		in physical sciences	6%	10%	
S&E postdoctorates, 1995	24	35,379	49	Higher education current-fund expenditures, 1995 (millions)	$947	$182,602	39
in doctorate-granting institutions							
S&E graduate students, 1995	3,064	436,328	36	Number of SBIR awards, 1990-1996	1	26,399	52
in doctorate-granting institutions				Patents issued to state residents, 1996	23	61,099	52
Population, 1996 (000s)	3,783	269,067	26	Gross state product, 1994 (billions)	$40.4	$6,876.0	38
Civilian labor force, 1996 (000s)	1,284	135,528	32	of which, agriculture	1%	2%	
				manufacturing, mining, construction	44%	23%	
Personal income per capita, 1996	$7,882	$24,231	52	transportation, communication, utilities	8%	9%	
Federal spending				wholesale and retail trade	14%	16%	
Total expenditures, 1996 (millions)	$10,304	$1,368,858	36	finance, insurance, real estate	13%	19%	
R&D obligations, 1995 (millions)	$47	$67,080	50	services	11%	20%	
				government	10%	13%	

Rankings and totals are based on data for the 50 states, D.C., and Puerto Rico.

Data on S&E postdoctorates and S&E graduate students include health fields.

The data source for Puerto Rico's personal income per capita, number of SBIR awards, and gross state product is as follows: Puerto Rico Federal Affairs Administration, Office of the Governor, Washington, D.C.

na = not available

Federal Obligations for Research and Development in Puerto Rico by Agency and Performer: Fiscal Year 1995

[Thousands of Dollars]

	Total	Federal intramural	All FFRDCs	Industrial firms	Universities & colleges	Other nonprofits	State & local government	State rank
Total, all agencies	46,657	7,163	7,669	0	29,999	186	1,640	50
Department of Agriculture	9,316	5,176	0	0	4,104	36	0	38
Department of Commerce	400	0	0	0	320	0	80	41
Department of Defense	159	0	0	0	159	0	0	52
Department of Energy	32	0	0	0	32	0	0	52
Dept. of Health & Human Services	21,915	0	0	0	20,630	150	1,135	43
Department of the Interior	2,065	1,987	0	0	78	0	0	45
Department of Transportation	468	0	0	0	43	0	425	51
Environmental Protection Agency	165	0	0	0	165	0	0	48
Nat'l Aeronautics & Space Admin.	0	0	0	0	0	0	0	52
National Science Foundation	12,137	0	7,669	0	4,468	0	0	34
State rank	50	49	18	52	43	52	40	

Federal R&D obligations are as reported by funding agencies.

FFRDC = federally funded research and development center

SBIR = small business innovation research

na = not applicable

Prepared by the National Science Foundation/Division of Science Resources Studies. Data compiled from numerous sources.

RHODE ISLAND

Science and Engineering Profile

	RI	U.S.	Rank		RI	U.S.	Rank
Doctoral scientists, 1995	2,018	453,928	41	Total R&D performance, 1995 (millions)	$896	$177,210	33
Doctoral engineers, 1995	483	86,738	36	Industry R&D, 1995 (millions)	$520	$130,332	34
S&E doctorates awarded, 1996	191	27,230	35	Academic R&D, 1995 (millions)	$106	$21,606	37
of which, in social sciences	21%	15%		of which, in life sciences	31%	55%	
in engineering	18%	23%		in environmental sciences	27%	6%	
in life sciences	18%	25%		in engineering	13%	16%	
S&E postdoctorates, 1995 in doctorate-granting institutions	159	35,379	34	Higher education current-fund expenditures, 1995 (millions)	$1,012	$182,602	38
S&E graduate students, 1995 in doctorate-granting institutions	2,158	436,328	40	Number of SBIR awards, 1990-1996	80	26,399	31
				Patents issued to state residents, 1996	235	61,099	37
Population, 1996 (000s)	990	269,067	44	Gross state product, 1994 (billions)	$23.9	$6,876.0	46
Civilian labor force, 1996 (000s)	496	135,528	44	of which, agriculture	1%	2%	
				manufacturing, mining, construction	21%	23%	
Personal income per capita, 1996	$24,765	$24,231	18	transportation, communication, utilities	7%	9%	
Federal spending				wholesale and retail trade	15%	16%	
Total expenditures, 1996 (millions)	$5,658	$1,368,858	43	finance, insurance, real estate	23%	19%	
R&D obligations, 1995 (millions)	$515	$67,080	25	services	22%	20%	
				government	12%	13%	

Rankings and totals are based on data for the 50 states, D.C., and Puerto Rico.
Data on S&E postdoctorates and S&E graduate students include health fields.

Federal Obligations for Research and Development in Rhode Island by Agency and Performer: Fiscal Year 1995

[Thousands of Dollars]

	Total	Federal intramural	All FFRDCs	Industrial firms	Universities & colleges	Other nonprofits	State & local government	State rank
Total, all agencies	515,425	254,302	0	179,292	62,738	16,767	2,326	25
Department of Agriculture	1,537	0	0	0	1,483	54	0	52
Department of Commerce	3,059	544	0	75	2,395	0	45	30
Department of Defense	432,478	242,420	0	177,810	12,125	123	0	18
Department of Energy	2,283	0	0	0	2,268	15	0	45
Dept. of Health & Human Services	37,781	0	0	367	21,756	14,430	1,228	33
Department of the Interior	1,677	1,200	0	38	439	0	0	49
Department of Transportation	1,426	570	0	108	40	0	708	39
Environmental Protection Agency	10,362	9,273	0	364	725	0	0	14
Nat'l Aeronautics & Space Admin.	4,338	295	0	523	3,050	470	0	36
National Science Foundation	20,484	0	0	7	18,457	1,675	345	26
State rank	25	14	na	23	33	21	32	

Federal R&D obligations are as reported by funding agencies.
FFRDC = federally funded research and development center
SBIR = small business innovation research
na = not applicable

Prepared by the National Science Foundation/Division of Science Resources Studies. Data compiled from numerous sources.

SOUTH CAROLINA

Science and Engineering Profile

	SC	U.S.	Rank
Doctoral scientists, 1995	4,143	453,928	29
Doctoral engineers, 1995	772	86,738	31
S&E doctorates awarded, 1996	242	27,230	32
of which, in life sciences	30%	25%	
in engineering	21%	23%	
in social sciences	19%	15%	
S&E postdoctorates, 1995 in doctorate-granting institutions	246	35,379	30
S&E graduate students, 1995 in doctorate-granting institutions	4,173	436,328	32
Population, 1996 (000s)	3,699	269,067	27
Civilian labor force, 1996 (000s)	1,848	135,528	26
Personal income per capita, 1996	$19,755	$24,231	42
Federal spending			
Total expenditures, 1996 (millions)	$18,402	$1,368,858	27
R&D obligations, 1995 (millions)	$178	$67,080	37

	SC	U.S.	Rank
Total R&D performance, 1995 (millions)	$996	$177,210	31
Industry R&D, 1995 (millions)	$739	$130,332	30
Academic R&D, 1995 (millions)	$220	$21,606	29
of which, in life sciences	51%	55%	
in engineering	22%	16%	
in environmental sciences	7%	6%	
Higher education current-fund expenditures, 1995 (millions)	$2,151	$182,602	27
Number of SBIR awards, 1990-1996	24	26,399	45
Patents issued to state residents, 1996	469	61,099	27
Gross state product, 1994 (billions)	$79.9	$6,876.0	27
of which, agriculture	1%	2%	
manufacturing, mining, construction	32%	23%	
transportation, communication, utilities	8%	9%	
wholesale and retail trade	16%	16%	
finance, insurance, real estate	13%	19%	
services	15%	20%	
government	16%	13%	

Rankings and totals are based on data for the 50 states, D.C., and Puerto Rico.

Data on S&E postdoctorates and S&E graduate students include health fields.

Federal Obligations for Research and Development in South Carolina by Agency and Performer: Fiscal Year 1995

[Thousands of Dollars]

	Total	Federal intramural	All FFRDCs	Industrial firms	Universities & colleges	Other nonprofits	State & local government	State rank
Total, all agencies	177,962	34,441	29,858	41,168	65,741	2,732	4,022	37
Department of Agriculture	15,236	8,766	0	0	6,470	0	0	34
Department of Commerce	40,099	12,424	0	23,731	3,441	350	153	8
Department of Defense	34,987	10,527	23	16,040	6,960	1,437	0	34
Department of Energy	38,134	0	29,835	55	8,192	52	0	20
Dept. of Health & Human Services	33,776	50	0	1,016	29,450	655	2,605	38
Department of the Interior	2,784	2,674	0	10	100	0	0	40
Department of Transportation	1,431	0	0	0	373	0	1,058	38
Environmental Protection Agency	465	0	0	0	465	0	0	45
Nat'l Aeronautics & Space Admin.	2,420	0	0	123	1,885	206	206	39
National Science Foundation	8,630	0	0	193	8,405	32	0	39
State rank	37	37	13	33	31	39	17	

Federal R&D obligations are as reported by funding agencies.

FFRDC = federally funded research and development center

SBIR = small business innovation research

na = not applicable

Prepared by the National Science Foundation/Division of Science Resources Studies. Data compiled from numerous sources.

SOUTH DAKOTA

Science and Engineering Profile

	SD	U.S.	Rank
Doctoral scientists, 1995	1,043	453,928	50
Doctoral engineers, 1995	77	86,738	52
S&E doctorates awarded, 1996	24	27,230	52
of which, in life sciences	63%	25%	-
in psychology	17%	13%	
in physical sciences	8%	14%	
S&E postdoctorates, 1995 in doctorate-granting institutions	17	35,379	51
S&E graduate students, 1995 in doctorate-granting institutions	1,286	436,328	46
Population, 1996 (000s)	732	269,067	46
Civilian labor force, 1996 (000s)	390	135,528	46
Personal income per capita, 1996	$21,516	$24,231	35
Federal spending			
Total expenditures, 1996 (millions)	$3,873	$1,368,858	48
R&D obligations, 1995 (millions)	$26	$67,080	52

	SD	U.S.	Rank
Total R&D performance, 1995 (millions)	$55	$177,210	51
Industry R&D, 1995 (millions)	$19	$130,332	48
Academic R&D, 1995 (millions)	$21	$21,606	52
of which, in life sciences	58%	55%	
in environmental sciences	18%	6%	
in engineering	12%	16%	
Higher education current-fund expenditures, 1995 (millions)	$322	$182,602	51
Number of SBIR awards, 1990-1996	13	26,399	48
Patents issued to state residents, 1996	43	61,099	48
Gross state product, 1994 (billions)	$17.3	$6,876.0	48
of which, agriculture	11%	2%	
manufacturing, mining, construction	16%	23%	
transportation, communication, utilities	8%	9%	
wholesale and retail trade	16%	16%	
finance, insurance, real estate	20%	19%	
services	16%	20%	
government	14%	13%	

Rankings and totals are based on data for the 50 states, D.C., and Puerto Rico.

Data on S&E postdoctorates and S&E graduate students include health fields.

Federal Obligations for Research and Development in South Dakota by Agency and Performer: Fiscal Year 1995

[Thousands of Dollars]

	Total	Federal intramural	All FFRDCs	Industrial firms	Universities & colleges	Other nonprofits	State & local government	State rank
Total, all agencies	26,492	13,428	0	2,737	8,392	847	1,088	52
Department of Agriculture	5,518	2,495	0	0	3,023	0	0	47
Department of Commerce	10	0	0	0	10	0	0	52
Department of Defense	366	335	0	31	0	0	0	51
Department of Energy	80	0	0	0	80	0	0	50
Dept. of Health & Human Services	2,745	562	0	335	581	847	420	50
Department of the Interior	5,838	3,549	0	2,051	238	0	0	23
Department of Transportation	668	0	0	0	0	0	668	48
Environmental Protection Agency	0	0	0	0	0	0	0	52
Nat'l Aeronautics & Space Admin.	7,760	6,487	0	255	1,018	0	0	31
National Science Foundation	3,507	0	0	65	3,442	0	0	50
State rank	52	46	na	49	52	49	46	

Federal R&D obligations are as reported by funding agencies.

FFRDC = federally funded research and development center

SBIR = small business innovation research

na = not applicable

Prepared by the National Science Foundation/Division of Science Resources Studies. Data compiled from numerous sources.

TENNESSEE

Science and Engineering Profile

	TN	U.S.	Rank
Doctoral scientists, 1995	7,631	453,928	21
Doctoral engineers, 1995	1,392	86,738	19
S&E doctorates awarded, 1996	350	27,230	24
of which, in life sciences	26%	25%	
in engineering	24%	23%	
in psychology	17%	13%	
S&E postdoctorates, 1995 in doctorate-granting institutions	465	35,379	23
S&E graduate students, 1995 in doctorate-granting institutions	7,195	436,328	20
Population, 1996 (000s)	5,320	269,067	17
Civilian labor force, 1996 (000s)	2,751	135,528	19
Personal income per capita, 1996	$21,764	$24,231	34
Federal spending			
Total expenditures, 1996 (millions)	$27,558	$1,368,858	17
R&D obligations, 1995 (millions)	$582	$67,080	23

	TN	U.S.	Rank
Total R&D performance, 1995 (millions)	$1,402	$177,210	26
Industry R&D, 1995 (millions)	$1,003	$130,332	25
Academic R&D, 1995 (millions)	$308	$21,606	26
of which, in life sciences	60%	55%	
in engineering	16%	16%	
in physical sciences	7%	10%	
Higher education current-fund expenditures, 1995 (millions)	$3,453	$182,602	19
Number of SBIR awards, 1990-1996	260	26,399	24
Patents issued to state residents, 1996	633	61,099	24
Gross state product, 1994 (billions)	$126.5	$6,876.0	18
of which, agriculture	1%	2%	
manufacturing, mining, construction	28%	23%	
transportation, communication, utilities	8%	9%	
wholesale and retail trade	18%	16%	
finance, insurance, real estate	13%	19%	
services	19%	20%	
government	12%	13%	

Rankings and totals are based on data for the 50 states, D.C., and Puerto Rico.

Data on S&E postdoctorates and S&E graduate students include health fields.

Federal Obligations for Research and Development in Tennessee by Agency and Performer: Fiscal Year 1995

[Thousands of Dollars]

	Total	Federal intramural	All FFRDCs	Industrial firms	Universities & colleges	Other nonprofits	State & local government	State rank
Total, all agencies	581,956	62,100	295,072	34,700	167,951	19,875	2,258	23
Department of Agriculture	9,249	160	0	0	9,089	0	0	39
Department of Commerce	1,115	1,005	0	41	69	0	0	37
Department of Defense	82,725	52,015	9,552	8,751	12,407	0	0	29
Department of Energy	299,627	503	281,993	11,058	6,073	0	0	7
Dept. of Health & Human Services	142,131	1,330	1,128	2,540	117,293	19,508	332	21
Department of the Interior	3,074	2,751	0	35	245	0	43	38
Department of Transportation	3,300	942	418	53	191	0	1,696	29
Environmental Protection Agency	1,101	0	0	208	893	0	0	38
Nat'l Aeronautics & Space Admin.	23,667	3,394	1,919	11,156	6,736	367	95	21
National Science Foundation	15,967	0	62	858	14,955	0	92	28
State rank	23	26	5	36	24	18	33	

Federal R&D obligations are as reported by funding agencies.

FFRDC = federally funded research and development center

SBIR = small business innovation research

na = not applicable

Prepared by the National Science Foundation/Division of Science Resources Studies. Data compiled from numerous sources.

TEXAS

Science and Engineering Profile

	TX	U.S.	Rank
Doctoral scientists, 1995	24,474	453,928	3
Doctoral engineers, 1995	6,047	86,738	2
S&E doctorates awarded, 1996	1,710	27,230	3
of which, in engineering	29%	23%	
in life sciences	24%	25%	
in physical sciences	13%	14%	
S&E postdoctorates, 1995 in doctorate-granting institutions	1,932	35,379	5
S&E graduate students, 1995 in doctorate-granting institutions	26,616	436,328	3
Population, 1996 (000s)	19,128	269,067	2
Civilian labor force, 1996 (000s)	9,748	135,528	2
Personal income per capita, 1996	$22,045	$24,231	32
Federal spending			
Total expenditures, 1996 (millions)	$86,496	$1,368,858	3
R&D obligations, 1995 (millions)	$4,062	$67,080	4

	TX	U.S.	Rank
Total R&D performance, 1995 (millions)	$8,385	$177,210	6
Industry R&D, 1995 (millions)	$6,211	$130,332	6
Academic R&D, 1995 (millions)	$1,472	$21,606	3
of which, in life sciences	60%	55%	
in engineering	16%	16%	
in environmental sciences	9%	6%	
Higher education current-fund expenditures, 1995 (millions)	$9,773	$182,602	4
Number of SBIR awards, 1990-1996	914	26,399	7
Patents issued to state residents, 1996	4,171	61,099	3
Gross state product, 1994 (billions)	$479.8	$6,876.0	3
of which, agriculture	2%	2%	
manufacturing, mining, construction	27%	23%	
transportation, communication, utilities	11%	9%	
wholesale and retail trade	16%	16%	
finance, insurance, real estate	14%	19%	
services	18%	20%	
government	12%	13%	

Rankings and totals are based on data for the 50 states, D.C., and Puerto Rico.
Data on S&E postdoctorates and S&E graduate students include health fields.

Federal Obligations for Research and Development in Texas by Agency and Performer: Fiscal Year 1995

[Thousands of Dollars]

	Total	Federal intramural	All FFRDCs	Industrial firms	Universities & colleges	Other nonprofits	State & local government	State rank
Total, all agencies	4,062,175	537,508	860	2,701,709	649,159	163,001	9,938	4
Department of Agriculture	61,417	43,582	0	160	17,502	145	28	4
Department of Commerce	17,214	2,586	0	12,464	1,769	79	316	16
Department of Defense	1,390,773	146,350	860	1,059,959	80,184	103,420	0	8
Department of Energy	69,130	0	0	40,103	28,155	872	0	15
Dept. of Health & Human Services	443,460	275	0	8,901	398,347	33,585	2,352	6
Department of the Interior	9,248	7,254	0	131	1,863	0	0	16
Department of Transportation	17,447	0	0	8,861	1,825	307	6,454	9
Environmental Protection Agency	16,939	0	0	7,350	8,442	1,015	132	12
Nat'l Aeronautics & Space Admin.	1,956,953	337,461	0	1,562,001	34,312	23,179	0	2
National Science Foundation	79,594	0	0	1,779	76,760	399	656	7
State rank	4	8	19	3	6	6	4	

Federal R&D obligations are as reported by funding agencies.
FFRDC = federally funded research and development center
SBIR = small business innovation research
na = not applicable

Prepared by the National Science Foundation/Division of Science Resources Studies. Data compiled from numerous sources.

UTAH

Science and Engineering Profile

	UT	U.S.	Rank
Doctoral scientists, 1995	3,994	453,928	31
Doctoral engineers, 1995	929	86,738	27
S&E doctorates awarded, 1996	300	27,230	27
of which, in engineering	25%	23%	
in life sciences	21%	25%	
in physical sciences	19%	14%	
S&E postdoctorates, 1995 in doctorate-granting institutions	269	35,379	28
S&E graduate students, 1995 in doctorate-granting institutions	5,004	436,328	29
Population, 1996 (000s)	2,000	269,067	35
Civilian labor force, 1996 (000s)	998	135,528	35
Personal income per capita, 1996	$19,156	$24,231	46
Federal spending			
Total expenditures, 1996 (millions)	$8,193	$1,368,858	38
R&D obligations, 1995 (millions)	$371	$67,080	29

	UT	U.S.	Rank
Total R&D performance, 1995 (millions)	$1,144	$177,210	29
Industry R&D, 1995 (millions)	$803	$130,332	28
Academic R&D, 1995 (millions)	$202	$21,606	30
of which, in life sciences	47%	55%	
in engineering	25%	16%	
in physical sciences	9%	10%	
Higher education current-fund expenditures, 1995 (millions)	$1,846	$182,602	31
Number of SBIR awards, 1990-1996	335	26,399	21
Patents issued to state residents, 1996	540	61,099	25
Gross state product, 1994 (billions)	$41.7	$6,876.0	36
of which, agriculture	1%	2%	
manufacturing, mining, construction	23%	23%	
transportation, communication, utilities	10%	9%	
wholesale and retail trade	16%	16%	
finance, insurance, real estate	14%	19%	
services	20%	20%	
government	16%	13%	

Rankings and totals are based on data for the 50 states, D.C., and Puerto Rico.

Data on S&E postdoctorates and S&E graduate students include health fields.

Federal Obligations for Research and Development in Utah by Agency and Performer: Fiscal Year 1995

[Thousands of Dollars]

	Total	Federal intramural	All FFRDCs	Industrial firms	Universities & colleges	Other nonprofits	State & local government	State rank
Total, all agencies	371,208	131,138	0	98,522	128,347	7,730	5,471	29
Department of Agriculture	13,369	7,901	0	0	5,466	0	2	35
Department of Commerce	4,409	0	0	3,963	180	0	266	28
Department of Defense	226,934	117,797	0	86,625	22,512	0	0	23
Department of Energy	16,798	0	0	756	6,936	5,194	3,912	27
Dept. of Health & Human Services	72,831	0	0	4,231	65,836	2,379	385	29
Department of the Interior	5,621	5,233	0	91	297	0	0	24
Department of Transportation	1,417	0	0	34	477	0	906	41
Environmental Protection Agency	1,259	0	0	379	880	0	0	34
Nat'l Aeronautics & Space Admin.	6,762	207	0	1,943	4,455	157	0	35
National Science Foundation	21,808	0	0	500	21,308	0	0	24
State rank	29	22	na	29	28	29	9	

Federal R&D obligations are as reported by funding agencies.

FFRDC = federally funded research and development center

SBIR = small business innovation research

na = not applicable

Prepared by the National Science Foundation/Division of Science Resources Studies. Data compiled from numerous sources.

VERMONT

Science and Engineering Profile

	VT	U.S.	Rank
Doctoral scientists, 1995	1,366	453,928	47
Doctoral engineers, 1995	328	86,738	41
S&E doctorates awarded, 1996	47	27,230	48
of which, in life sciences	43%	25%	
in psychology	36%	13%	
in engineering	13%	23%	
S&E postdoctorates, 1995 in doctorate-granting institutions	80	35,379	39
S&E graduate students, 1995 in doctorate-granting institutions	756	436,328	51
Population, 1996 (000s)	589	269,067	50
Civilian labor force, 1996 (000s)	324	135,528	49
Personal income per capita, 1996	$22,124	$24,231	31
Federal spending			
Total expenditures, 1996 (millions)	$2,775	$1,368,858	51
R&D obligations, 1995 (millions)	$54	$67,080	48

	VT	U.S.	Rank
Total R&D performance, 1995 (millions)	$308	$177,210	46
Industry R&D, 1995 (millions)	$248	$130,332	40
Academic R&D, 1995 (millions)	$54	$21,606	46
of which, in life sciences	87%	55%	
in engineering	4%	16%	
in physical sciences	2%	10%	
Higher education current-fund expenditures, 1995 (millions)	$605	$182,602	44
Number of SBIR awards, 1990-1996	72	26,399	33
Patents issued to state residents, 1996	254	61,099	36
Gross state product, 1994 (billions)	$13.3	$6,876.0	52
of which, agriculture	2%	2%	
manufacturing, mining, construction	22%	23%	
transportation, communication, utilities	9%	9%	
wholesale and retail trade	17%	16%	
finance, insurance, real estate	17%	19%	
services	20%	20%	
government	12%	13%	

Rankings and totals are based on data for the 50 states, D.C., and Puerto Rico.
Data on S&E postdoctorates and S&E graduate students include health fields.

Federal Obligations for Research and Development in Vermont by Agency and Performer: Fiscal Year 1995

[Thousands of Dollars]

	Total	Federal intramural	All FFRDCs	Industrial firms	Universities & colleges	Other nonprofits	State & local government	State rank
Total, all agencies	53,590	4,702	0	13,358	33,514	1,413	603	48
Department of Agriculture	5,785	1,598	0	0	4,175	12	0	46
Department of Commerce	45	0	0	0	45	0	0	49
Department of Defense	13,573	1,444	0	10,885	1,244	0	0	41
Department of Energy	534	0	0	0	534	0	0	48
Dept. of Health & Human Services	26,937	0	0	1,376	24,027	1,401	133	41
Department of the Interior	1,804	1,660	0	66	78	0	0	47
Department of Transportation	419	0	0	0	0	0	419	52
Environmental Protection Agency	51	0	0	0	0	0	51	50
Nat'l Aeronautics & Space Admin.	663	0	0	574	89	0	0	50
National Science Foundation	3,779	0	0	457	3,322	0	0	49
State rank	48	51	na	40	41	44	51	

Federal R&D obligations are as reported by funding agencies.
FFRDC = federally funded research and development center
SBIR = small business innovation research
na = not applicable

Prepared by the National Science Foundation/Division of Science Resources Studies. Data compiled from numerous sources.

VIRGINIA

Science and Engineering Profile

	VA	U.S.	Rank
Doctoral scientists, 1995	13,682	453,928	10
Doctoral engineers, 1995	2,901	86,738	10
S&E doctorates awarded, 1996	634	27,230	14
of which, in engineering	25%	23%	
in life sciences	19%	25%	
in psychology	16%	13%	
S&E postdoctorates, 1995 in doctorate-granting institutions	592	35,379	19
S&E graduate students, 1995 in doctorate-granting institutions	13,014	436,328	10
Population, 1996 (000s)	6,675	269,067	12
Civilian labor force, 1996 (000s)	3,389	135,528	12
Personal income per capita, 1996	$24,925	$24,231	15
Federal spending			
Total expenditures, 1996 (millions)	$50,302	$1,368,858	7
R&D obligations, 1995 (millions)	$3,603	$67,080	5

	VA	U.S.	Rank
Total R&D performance, 1995 (millions)	$3,897	$177,210	14
Industry R&D, 1995 (millions)	$1,577	$130,332	19
Academic R&D, 1995 (millions)	$447	$21,606	15
of which, in life sciences	52%	55%	
in engineering	17%	16%	
in environmental sciences	13%	6%	
Higher education current-fund expenditures, 1995 (millions)	$4,289	$182,602	12
Number of SBIR awards, 1990-1996	1,413	26,899	3
Patents issued to state residents, 1996	859	61,099	27
Gross state product, 1994 (billions)	$177.7	$6,876.0	13
of which, agriculture	1%	2%	
manufacturing, mining, construction	20%	23%	
transportation, communication, utilities	9%	9%	
wholesale and retail trade	14%	16%	
finance, insurance, real estate	17%	19%	
services	19%	20%	
government	20%	13%	

Rankings and totals are based on data for the 50 states, D.C., and Puerto Rico.

Data on S&E postdoctorates and S&E graduate students include health fields.

Federal Obligations for Research and Development in Virginia by Agency and Performer: Fiscal Year 1995

[Thousands of Dollars]

	Total	Federal intramural	All FFRDCs	Industrial firms	Universities & colleges	Other nonprofits	State & local government	State rank
Total, all agencies	3,603,023	1,580,530	236,503	1,534,313	206,554	41,651	3,472	5
Department of Agriculture	12,129	787	0	0	10,074	1,177	91	37
Department of Commerce	36,758	5,384	0	27,404	3,801	50	119	9
Department of Defense	2,549,556	1,244,189	168,120	1,097,499	31,792	7,956	0	4
Department of Energy	93,285	9,704	59,031	12,364	7,257	4,929	0	14
Dept. of Health & Human Services	146,354	1,306	0	36,964	98,639	8,209	1,236	20
Department of the Interior	51,152	40,663	0	9,873	567	49	0	1
Department of Transportation	55,657	9,592	9,088	32,991	1,728	250	2,008	4
Environmental Protection Agency	33,901	0	0	31,853	1,165	883	0	4
Nat'l Aeronautics & Space Admin.	563,187	267,607	0	265,384	20,846	9,332	18	4
National Science Foundation	61,044	1,298	264	19,981	30,685	8,816	0	11
State rank	5	4	6	6	19	14	23	

Federal R&D obligations are as reported by funding agencies.

FFRDC = federally funded research and development center

SBIR = small business innovation research

na = not applicable

Prepared by the National Science Foundation/Division of Science Resources Studies. Data compiled from numerous sources.

WASHINGTON

Science and Engineering Profile

	WA	U.S.	Rank
Doctoral scientists, 1995	10,899	453,928	15
Doctoral engineers, 1995	1,935	86,738	14
S&E doctorates awarded, 1996	454	27,230	21
of which, in life sciences	27%	25%	
in engineering	23%	23%	
in social sciences	16%	15%	
S&E postdoctorates, 1995	1,010	35,379	12
in doctorate-granting institutions			
S&E graduate students, 1995	6,051	436,328	24
in doctorate-granting institutions			
Population, 1996 (000s)	5,533	269,067	15
Civilian labor force, 1996 (000s)	2,887	135,528	17
Personal income per capita, 1996	$24,838	$24,231	16
Federal spending			
Total expenditures, 1996 (millions)	$29,246	$1,368,858	16
R&D obligations, 1995 (millions)	$1,128	$67,080	16

	WA	U.S.	Rank
Total R&D performance, 1995 (millions)	$5,241	$177,210	11
Industry R&D, 1995 (millions)	$4,294	$130,332	9
Academic R&D, 1995 (millions)	$486	$21,606	13
of which, in life sciences	64%	55%	
in environmental sciences	11%	6%	
in engineering	9%	16%	
Higher education current-fund expenditures, 1995 (millions)	$3,321	$182,602	20
Number of SBIR awards, 1990-1996	571	26,399	12
Patents issued to state residents, 1996	1,142	61,099	17
Gross state product, 1994 (billions)	$143.9	$6,876.0	14
of which, agriculture	3%	2%	
manufacturing, mining, construction	19%	23%	
transportation, communication, utilities	8%	9%	
wholesale and retail trade	18%	16%	
finance, insurance, real estate	18%	19%	
services	19%	20%	
government	15%	13%	

Rankings and totals are based on data for the 50 states, D.C., and Puerto Rico.

Data on S&E postdoctorates and S&E graduate students include health fields.

Federal Obligations for Research and Development in Washington by Agency and Performer: Fiscal Year 1995

[Thousands of Dollars]

	Total	Federal intramural	All FFRDCs	Industrial firms	Universities & colleges	Other nonprofits	State & local government	State rank
Total, all agencies	1,127,750	159,837	204,972	329,654	330,375	95,900	7,012	16
Department of Agriculture	36,622	21,057	0	0	15,386	0	179	11
Department of Commerce	58,453	54,119	0	1,975	2,212	0	147	4
Department of Defense	346,330	70,327	2,678	234,334	36,661	2,330	0	20
Department of Energy	231,267	559	194,003	17,787	17,835	103	980	9
Dept. of Health & Human Services	308,384	17	7,088	8,540	198,756	90,090	3,893	9
Department of the Interior	14,880	12,570	0	47	2,263	0	0	7
Department of Transportation	4,378	0	1,203	943	733	118	1,381	26
Environmental Protection Agency	2,145	0	0	52	861	900	332	29
Nat'l Aeronautics & Space Admin.	77,434	1,188	0	64,023	11,897	326	0	12
National Science Foundation	47,857	0	0	1,953	43,771	2,033	100	16
State rank	16	19	7	18	10	8	5	

Federal R&D obligations are as reported by funding agencies.

FFRDC = federally funded research and development center

SBIR = small business innovation research

na = not applicable

Prepared by the National Science Foundation/Division of Science Resources Studies. Data compiled from numerous sources.

WEST VIRGINIA

Science and Engineering Profile

	WV	U.S.	Rank
Doctoral scientists, 1995	1,787	453,928	43
Doctoral engineers, 1995	402	86,738	39
S&E doctorates awarded, 1996	66	27,230	41
of which, in life sciences	30%	25%	
in engineering	29%	23%	
in social sciences	14%	15%	
S&E postdoctorates, 1995 in doctorate-granting institutions	26	35,379	48
S&E graduate students, 1995 in doctorate-granting institutions	2,236	436,328	39
Population, 1996 (000s)	1,826	269,067	36
Civilian labor force, 1996 (000s)	808	135,528	38
Personal income per capita, 1996	$18,444	$24,231	50
Federal spending			
Total expenditures, 1996 (millions)	$10,060	$1,368,858	37
R&D obligations, 1995 (millions)	$296	$67,080	31

	WV	U.S.	Rank
Total R&D performance, 1995 (millions)	$475	$177,210	39
Industry R&D, 1995 (millions)	$243	$130,332	41
Academic R&D, 1995 (millions)	$53	$21,606	47
of which, in life sciences	47%	55%	
in engineering	23%	16%	
in environmental sciences	12%	6%	
Higher education current-fund expenditures, 1995 (millions)	$848	$182,602	41
Number of SBIR awards, 1990-1996	8	26,399	51
Patents issued to state residents, 1996	114	61,099	42
Gross state product, 1994 (billions)	$34.7	$6,876.0	41
of which, agriculture	1%	2%	
manufacturing, mining, construction	31%	23%	
transportation, communication, utilities	13%	9%	
wholesale and retail trade	14%	16%	
finance, insurance, real estate	11%	19%	
services	16%	20%	
government	13%	13%	

Rankings and totals are based on data for the 50 states, D.C., and Puerto Rico.
Data on S&E postdoctorates and S&E graduate students include health fields.

Federal Obligations for Research and Development in West Virginia by Agency and Performer: Fiscal Year 1995

[Thousands of Dollars]

	Total	Federal intramural	All FFRDCs	Industrial firms	Universities & colleges	Other nonprofits	State & local government	State rank
Total, all agencies	296,347	139,595	29,597	83,116	35,132	5,999	2,908	31
Department of Agriculture	20,837	15,777	0	0	3,743	1,197	120	22
Department of Commerce	153	0	0	0	153	0	0	46
Department of Defense	17,014	6,738	0	4,310	1,581	4,385	0	40
Department of Energy	134,360	58,324	0	70,674	5,362	0	0	12
Dept. of Health & Human Services	59,614	51,434	0	97	6,472	297	1,314	31
Department of the Interior	6,377	6,262	0	22	93	0	0	20
Department of Transportation	2,611	0	0	1,291	125	0	1,195	30
Environmental Protection Agency	10	0	0	0	0	10	0	51
Nat'l Aeronautics & Space Admin.	22,831	1,060	0	6,722	14,939	110	0	22
National Science Foundation	32,540	0	29,597	0	2,664	0	279	21
State rank	31	20	15	30	40	33	28	

Federal R&D obligations are as reported by funding agencies.
FFRDC = federally funded research and development center
SBIR = small business innovation research
na = not applicable

Prepared by the National Science Foundation/Division of Science Resources Studies. Data compiled from numerous sources.

WISCONSIN

Science and Engineering Profile

	WI	U.S.	Rank
Doctoral scientists, 1995	6,899	453,928	23
Doctoral engineers, 1995	962	86,738	26
S&E doctorates awarded, 1996	577	27,230	16
of which, in life sciences	30%	25%	
in engineering	22%	23%	
in social sciences	16%	15%	
S&E postdoctorates, 1995 in doctorate-granting institutions	687	35,379	16
S&E graduate students, 1995 in doctorate-granting institutions	8,621	436,328	18
Population, 1996 (000s)	5,160	269,067	18
Civilian labor force, 1996 (000s)	2,918	135,528	15
Personal income per capita, 1996	$23,269	$24,231	24
Federal spending			
Total expenditures, 1996 (millions)	$19,959	$1,368,858	24
R&D obligations, 1995 (millions)	$347	$67,080	30

	WI	U.S.	Rank
Total R&D performance, 1995 (millions)	$2,226	$177,210	22
Industry R&D, 1995 (millions)	$1,706	$130,332	18
Academic R&D, 1995 (millions)	$473	$21,606	14
of which, in life sciences	60%	55%	
in engineering	13%	16%	
in physical sciences	9%	10%	
Higher education current-fund expenditures, 1995 (millions)	$3,768	$182,602	16
Number of SBIR awards, 1990-1996	202	26,399	25
Patents issued to state residents, 1996	1,321	61,099	13
Gross state product, 1994 (billions)	$125.3	$6,876.0	19
of which, agriculture	2%	2%	
manufacturing, mining, construction	32%	23%	
transportation, communication, utilities	7%	9%	
wholesale and retail trade	15%	16%	
finance, insurance, real estate	16%	19%	
services	16%	20%	
government	11%	13%	

Rankings and totals are based on data for the 50 states, D.C., and Puerto Rico.

Data on S&E postdoctorates and S&E graduate students include health fields.

Federal Obligations for Research and Development in Wisconsin by Agency and Performer: Fiscal Year 1995

[Thousands of Dollars]

	Total	Federal intramural	All FFRDCs	Industrial firms	Universities & colleges	Other nonprofits	State & local government	State rank
Total, all agencies	347,089	40,344	0	35,934	260,374	6,720	3,717	30
Department of Agriculture	34,643	23,843	0	404	10,351	10	35	12
Department of Commerce	5,144	625	0	2,381	2,138	0	0	27
Department of Defense	30,945	971	0	9,003	20,971	0	0	36
Department of Energy	19,040	240	0	0	18,800	0	0	26
Dept. of Health & Human Services	161,351	0	0	1,797	150,985	6,623	1,946	18
Department of the Interior	12,607	12,246	0	0	292	0	69	11
Department of Transportation	5,587	2,419	0	515	1,091	0	1,562	24
Environmental Protection Agency	2,010	0	0	0	1,905	0	105	30
Nat'l Aeronautics & Space Admin.	35,932	0	0	21,737	14,108	87	0	17
National Science Foundation	39,830	0	0	97	39,733	0	0	18
State rank	30	34	na	35	13	30	19	

Federal R&D obligations are as reported by funding agencies.

FFRDC = federally funded research and development center

SBIR = small business innovation research

na = not applicable

Prepared by the National Science Foundation/Division of Science Resources Studies. Data compiled from numerous sources.

WYOMING

Science and Engineering Profile

	WY	U.S.	Rank
Doctoral scientists, 1995	720	453,928	52
Doctoral engineers, 1995	117	86,738	51
S&E doctorates awarded, 1996	53	27,230	45
of which, in life sciences	21%	25%	
in engineering	17%	23%	
in math & computer sciences	17%	8%	
S&E postdoctorates, 1995 in doctorate-granting institutions	45	35,379	45
S&E graduate students, 1995 in doctorate-granting institutions	939	436,328	49
Population, 1996 (000s)	481	269,067	52
Civilian labor force, 1996 (000s)	258	135,528	52
Personal income per capita, 1996	$21,245	$24,231	36
Federal spending			
Total expenditures, 1996 (millions)	$2,515	$1,368,858	52
R&D obligations, 1995 (millions)	$35	$67,080	51

	WY	U.S.	Rank
Total R&D performance, 1995 (millions)	$87	$177,210	50
Industry R&D, 1995 (millions)	$25	$130,332	47
Academic R&D, 1995 (millions)	$40	$21,606	50
of which, in life sciences	45%	55%	
in environmental sciences	23%	6%	
in physical sciences	8%	10%	
Higher education current-fund expenditures, 1995 (millions)	$305	$182,602	52
Number of SBIR awards, 1990-1996	9	26,399	50
Patents issued to state residents, 1996	33	61,099	51
Gross state product, 1994 (billions)	$15.7	$6,876.0	50
of which, agriculture	2%	2%	
manufacturing, mining, construction	38%	23%	
transportation, communication, utilities	17%	9%	
wholesale and retail trade	10%	16%	
finance, insurance, real estate	11%	19%	
services	9%	20%	
government	13%	13%	

Rankings and totals are based on data for the 50 states, D.C., and Puerto Rico.

Data on S&E postdoctorates and S&E graduate students include health fields.

Federal Obligations for Research and Development in Wyoming by Agency and Performer: Fiscal Year 1995

[Thousands of Dollars]

	Total	Federal intramural	All FFRDCs	Industrial firms	Universities & colleges	Other nonprofits	State & local government	State rank
Total, all agencies	35,151	8,669	0	223	12,680	12,628	951	51
Department of Agriculture	6,556	4,603	0	0	1,935	18	0	43
Department of Commerce	57	0	0	0	0	0	57	48
Department of Defense	2,154	327	0	13	1,814	0	0	49
Department of Energy	5,268	0	0	55	1,213	3,950	50	41
Dept. of Health & Human Services	1,097	0	0	0	815	50	232	52
Department of the Interior	4,089	3,739	0	0	350	0	0	31
Department of Transportation	9,222	0	0	0	0	8,610	612	17
Environmental Protection Agency	477	0	0	0	477	0	0	44
Nat'l Aeronautics & Space Admin.	806	0	0	55	751	0	0	48
National Science Foundation	5,425	0	0	100	5,325	0	0	47
State rank	51	48	na	51	51	23	47	

Federal R&D obligations are as reported by funding agencies.

FFRDC = federally funded research and development center

SBIR = small business innovation research

na = not applicable

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